

AMERICAN
DENTAL
JOURNAL

—
4

1905

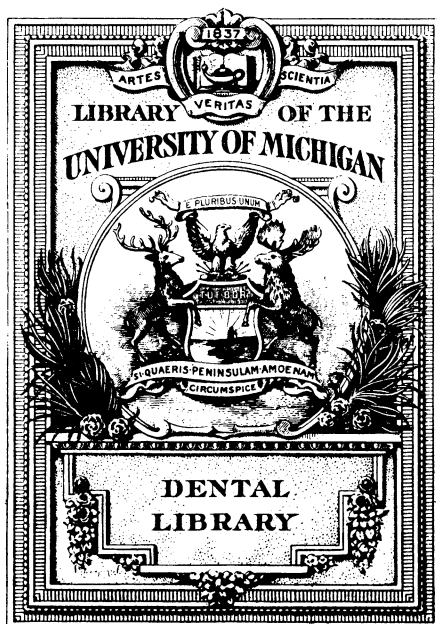
DENTAL LIB.

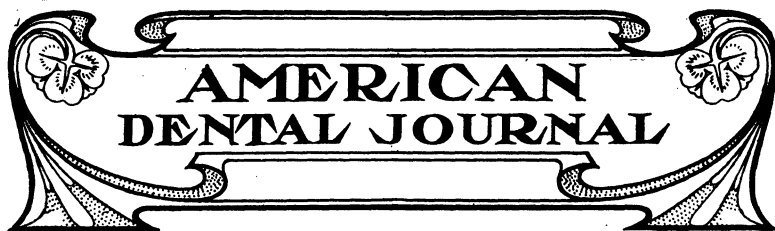
RN

1

1-13-05







PUBLISHED ON THE FIFTEENTH OF EVERY MONTH

VOL. 4

MAY, 1905

NO. 5

TABLE OF CONTENTS

Progressive Course of Practical Instruction

Orthodontia,

By J. N. M'DOWELL, D. D. S. - - 261

Operative Dentistry,

By R. B. TULLER, D. D. S. - - 269

Dental Therapeutics,

By GEORGE W. COOK, B. S., D. D. S. - 273

Original Contributions

Toothsome Topics,

By R. B. TULLER, D. D. S. - - - 278

Society Proceedings

Porcelain Inlays,

By GEO. W. SCHWARTZ, M. D. - - 283

TABLE OF CONTENTS—Continued.

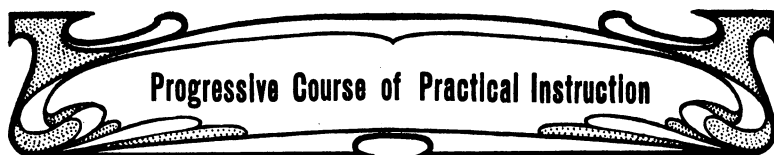
Society Announcements and Reports of Meetings	- 288
Editorial	
By Joy L. Frink, D. D. S.	- 304
Necrological	- 306
Miscellaneous	- 308
Personal and General	- 315
Patents	- 320
Index to Advertisers	- 323

Subscription \$1.00 per year in advance, to United States, Canada and Mexico. Other countries \$1.75. Single numbers, 10 cents.

Subscriptions received at any time, to date from January or July. Advertising rates made known on application. Remittance preferred by registered letter, postal money order, or bank draft.

Notification of change in address should be made on or before the 10th of the month in order to have change made in time for the following month's issue.

Address all communications to Frink & Young, Publishers, 607 8-9 Masonic Temple Chicago, Ill.. Telephone, 2072 Central.



ORTHODONTIA.

BY J. N. McDOWELL, D. D. S., PROFESSOR OF ORTHODONTIA, COLLEGE OF DENTISTRY, UNIVERSITY OF ILLINOIS.

CHAPTER V.

EXTRACTION OF THE TEMPORARY TEETH — CONSIDERATION — FAVORABLE CASES.

Considerable difference of opinion prevails as to the result of extraction of the temporary teeth, some writers maintaining that little or no evil result is brought about; others that serious difficulties arise from such procedure. The dental profession cannot lay down a definite law for extracting temporary or permanent teeth. Only suggestions can be made for the best course to follow, that would bring about the best results according to the individuality of the case. So many letters and models are sent to the author seeking information on extracting temporary or permanent teeth that he feels justified in writing a chapter on this subject, outlining what conditions, favorable or unfavorable, are likely to be established and the probable reason for same, based upon the examination of a large number of models, from dissecting a number of jaws and from general observation in practice.

By the normal process of nature, the first temporary teeth are thrown off at about the age of six years and the last at about the age of twelve years. Occasionally nature makes a mistake and retains the temporary teeth from one to several years longer than the usual time and sometimes for life. If any unfavorable change takes place in the development of the alveolar process, as the result of extraction, it is in those cases due to extraction of the temporary teeth several years preceding the eruption of the permanent teeth. At birth the infant's jaw is not only large enough to accommodate all the temporary teeth, but at least one of the permanent teeth. And at the age of eight months or one year there is room to accommodate all of

the first permanent molars. (Fig. 1.) If a temporary central incisor is lost by a blow or fall, or extracted at the age of four years, the permanent teeth would undoubtedly come through malpositioned for want of space, due to an undeveloped condition of the alveolar



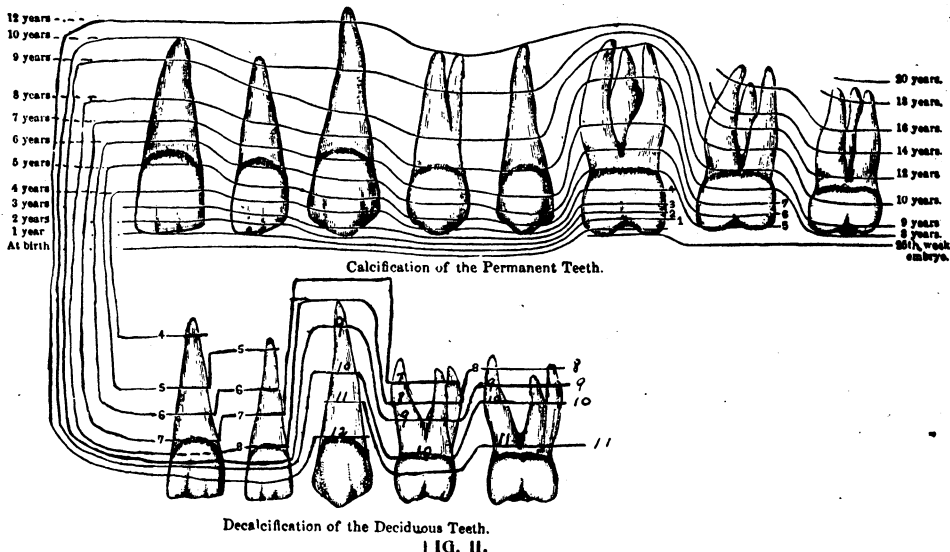
A

FIG. 1.

process; for at the age of four years only about one-half of the crown of the permanent tooth has developed. (See Fig. 2.) This half of a tooth is so frail in structure and so deep seated in the process that it is impossible for it to sustain the proper relation of the alveolar process at the point where the temporary tooth was removed; and the alveolar border at this point collapses and the place is filled in with osseous structure instead of developing for the accommodation of the larger permanent teeth, and finally when the permanent tooth makes its appearance it erupts rotated or malpositioned for want of proper space in which to erupt.

If, on the other hand, at the age of five or five and a half (considering that the other parts are normal) the tooth has developed the full crown (see Fig. 2), it has then come up near enough to the alveolar border to sustain its proper space, and will erupt in normal position. If the teeth, alveolar process and the jaws are developing normally and are not acted upon by some neurotic condition, temporary teeth can be extracted from one to one and a half years, according to tooth and position before the eruption of the permanent teeth, and the

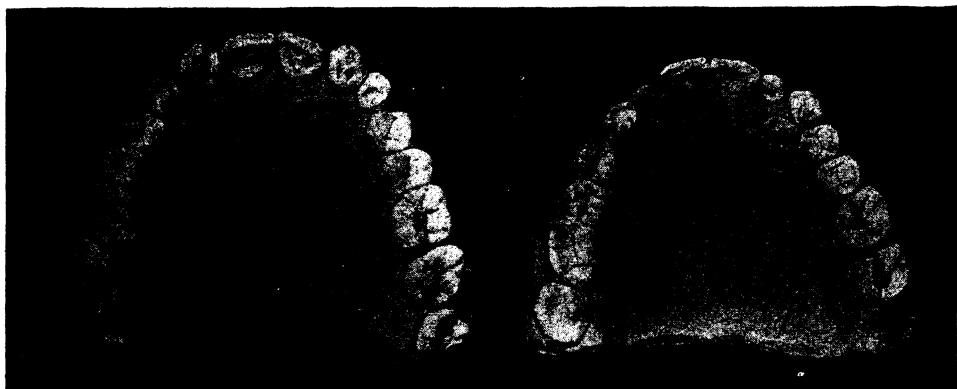
permanent teeth will undoubtedly erupt normally. If, however, the development of the teeth and anterior part of the process is beset with some neurotic condition, in most every case there is not even sufficient room for the permanent centrals, laterals and cuspids, even if the temporary teeth are retained until the permanent tooth makes its appearance, the case requires mechanical assistance. The temporary molars, however, are so much larger than the bicuspsids of



the permanent set that if they are extracted from one to one and a half years before there is still sufficient space for the eruption into normal position of the bicuspsids. If, however, there is abnormal development of the process, the extraction of the temporary molar one year to six months before the time of eruption of the permanent teeth, may cause the process to collapse, which calls for the mechanical assistance to aid the proper eruption of the bicuspsids.

Fig. 2 is a special cut to aid in deciding upon the proper time for extraction of the temporary teeth, their calcification and decalcification, and the development and eruption of the permanent teeth. The chart of calcification, eruption and decalcification of the teeth shown should be studied frequently and compared with every case when extraction of the temporary teeth becomes necessary. If it becomes necessary to extract a temporary tooth, ascertain the age of the pa-

tient and compare the age with the development of the permanent tooth that is to succeed it. Note also whether it is sufficiently developed to sustain the proper relation of the alveolar process at that point.



A

FIG. III.

B

When a temporary tooth has been retained until sixteen or twenty years of age, a cuspid or a molar, for instance, it is best to allow it to remain. In retention of the temporary for a few years, do not extract until there is every indication that the permanent tooth is going to erupt. (B, Fig. 3.) To be sure that there is a permanent tooth in position, it is always best to take an X-ray of such cases. Often the too long retained temporary teeth are extracted, only to find out later that the permanent tooth is entirely missing, having never developed. There can be no better substitution for a permanent tooth than a temporary tooth, if the permanent tooth is missing. (A, Fig. 3.)

As stated elsewhere there is one sure sign that the anterior part of the alveolar process is developing normally, and the permanent teeth will erupt into normal position, and that is when the upper and lower temporary incisors begin to separate about the age of five years or later. This separation or development of the alveolar process goes on until nature has prepared sufficient room for the eruption of the larger permanent centrals, laterals and cuspids. The temporary incisors stand apart from one millimeter to one and one-half millimeters, which proves that when the arches are developing normally that they do not need contact to sustain them in position at this age.

The extraction of the temporary incisors at such age, would have no perceptible effect upon the eruption or position of the permanent teeth, for by the proper physiological development the process is being properly enlarged for the accommodation of the permanent teeth. (See Fig. 4.)

That extraction of the temporary teeth at certain ages will cause malocclusion of the permanent teeth is an undisputed fact. Many times it may be for the want of proper instruction or pure carelessness, or it may be the result of necessity from disease, etc. The



FIG. IV.

author believes that unless the extraction occurs from one and a half years or more before the proper development of the permanent teeth that malocclusion of the teeth would have been established in a great many cases of decay even if the teeth had never been extracted. It is the failure in the proper development of the alveolar process that causes many forms of malocclusion that are allied to other reasons.

Teeth that are diseased and giving children a great deal of trouble should be treated again and again if unable to fill. Retain the temporary teeth as long as possible by treating if no other way. If, however, the teeth have developed sufficiently (referring to chart), and the process indicates good development, one need not hesitate about extracting decayed temporary teeth from one to one and a half years before the appearance of the permanent teeth.

The same statement must be made when the extraction of the permanent teeth is brought up for consideration, as well as for the temporary teeth, that is, that no law can be laid down for the extraction

of the permanent teeth. Only a general outline can be suggested based upon practical experience.

Every Tooth a Key to the Arch. Every tooth is valuable, a key-stone in supporting and sustaining the harmonious relations of the arches. The loss of a tooth in either arch affects both arches proportionately to the size and position of the tooth.

Dentistry is a science that is being promoted for the purpose of saving, restoring and preserving the teeth. The extraction of the



A

FIG. V.

B

permanent teeth that so often wreck the harmonious relation of the arches, is usually confined to the distal, but occasionally to the anterior teeth. There may be cases occasionally where the extraction of one or more of the permanent teeth may be necessary as a result of arrested development of one or both arches, crowding the teeth to such an extent that to align them would be to destroy the facial appearance by bulging out the lips. Fig. 5 shows a case of this kind where the first bicuspid were extracted, but to extract indiscriminately in children without an attempt at alignment of the teeth is unjust. In children an attempt should be made to align the teeth first, and then if the operator feels that to align all would distort the facial appearance, their extraction would undoubtedly be the proper course, but should only be decided upon after thorough study and investigation. The first bicuspid, in the author's opinion, are the ones to ex-

tract. To sacrifice one or two of the large molars that sustain so much space, is the act of one without conscience. Save the molars for masticating purposes if for nothing else. All of the teeth are valuable, yet if it becomes absolutely necessary extract one or two to harmonize the arches, improve the occlusion and facial appearance. Extract the first bicuspid. Owing to the fact that many of the parents consider that the first permanent molars are only temporary teeth, they are allowed to decay and be removed at the first sign of trouble. Perhaps time and proper advice from dentists will erase this folly. When teeth are extracted in children the space may



A

FIG. VII.

B

and may not close in a few years, but the inharmonious relationship of the arches has been established and it becomes either necessary to remove a tooth in the opposite arch to harmonize the condition, or enlarge the arch and replace the lost tooth with an artificial one, to sustain the harmonious relationship.

Extract to harmonize the arches and improve the malocclusion. Extract to improve the facial appearance. A tooth is never extracted to make room. Room can be made with regulating appliances under any circumstances, but as a rule to the detriment of the facial appearance. If the arches are in harmony it is not necessary to extract unless it is for the facial appearance. We may have perfect normal occlusion and yet the condition of the facial appearance in rare cases may demand the extraction for facial appearance alone.

Often the question arises, if a tooth is extracted in one arch, is it necessary to extract in the other arch? When there is a crowded condition after maturity, where alignment would only disfigure the features, as in Fig. 6, then it becomes necessary to extract in both arches. Long-delayed eruption of a tooth. Cuspid and incisors as a rule are never extracted, but in case the first bicuspid has moved

forward and the lateral backward until they touch (as in A, Fig. 6), the preference is to extract this tooth.

From previous extraction of a tooth from one of the arches it is usually necessary to extract in the opposite arch. Cuspids as a rule should never be extracted only in rare cases, as shown by A, Fig. 6. In the lower arch, if the inequality is confined to the anterior teeth as the result of the delayed eruption of a cuspid (B, Fig. 6), then extract a tooth that will favor the condition.

If in case of acute disease one is compelled from pain to suffer the loss of a tooth, it is best to impress upon the mind of the patient that the space should be preserved by artificial teeth for mastication, harmony of the arch and as a preventive against migration of the teeth in the future, fortifying the teeth to perform their functional service.

Sometimes in extracting teeth, especially the first bicuspid, the root is fractured and left in the process. A root in the path of a tooth being moved by regulating apparatus will always interfere with the movement of the tooth and will undoubtedly give trouble at some future time by causing abscesses, and if the teeth are tipped over the space from above it eventually becomes a serious case for treatment. It must be borne in mind that if a root has been broken off in extracting for improvement of malocclusion that the root must be removed before the regulating appliance is put on. Two methods can be used, according to the length of the root. If it is a good-sized root, use a local anesthetic and extract the root with a pair of alveolar forceps, taking the process and all with it; removing the process will be an aid to the movement of the tooth, as it would be absorbed later if not removed. If it is a very short root and deep in the alveolar process, it may be elevated with a small root elevator or burred out. By using a small burr one can drill all around the root, which can be easily located by the feeling, as it drills much harder than the bony process. After drilling around the end of the root it can then be easily forced out.



OPERATIVE DENTISTRY

By R. B. Tuller, D. D. S.,

Clinical Professor of Operative Dentistry, Chicago College of Dental Surgery.

CHAPTER XXVI.

TREATMENT OF PULPLESS TEETH

Pulpless teeth are of two kinds,—those in which the pulps have been recently destroyed, and those in which the pulps have died from one cause or another, with dissolution and putrefactive conditions following, alveolar abscess being a frequent sequel.

In the first class death is usually brought about by intention and design, and, not only are putrefactive conditions prevented by extirpation before changes in that direction can take place, but infection of the vacated chamber and roots is guarded against, hence, we have a healthy wound to deal with instead of a diseased condition. The procedure as to treatment and filling is somewhat different from that when septic conditions are found, more or less virulent, in pulps that have died and have not been given the proper attention to prevent mortuary dissolution.

In the removal of pulps termed healthy, the process is mechanical, inasmuch as the chamber and root canals are cleared by dragging away the contents by the use of suitable instruments, and, if this has been done with precautions to prevent the introduction of bacteria or disease germs, the way is clear for root filling.

Infection might be carried into these root canals by the use of instruments or broaches which have not been sterilized, or by the ingress of the moisture of the mouth, laden as it is with bacteria; so these things must be most carefully guarded against. In fear that some germ may be unwittingly introduced, even when painstaking care has been exercised, an efficient antiseptic should be used in washing out and dressing the root canals.

It is presumed, in above premises, that every particle of the pulp tissue has been taken away, but it is possible that a minute apical portion may be left in some of the exceedingly small and constricted roots in some instances. Unless such portion is embalmed, saturated, or mummified by the medicaments used (an uncertain proposition)

sooner or later it becomes putrescent and develops an abscess which may be sluggish or acute, blind or open, as nature determines under physiological conditions that obtain.

The extirpation of the pulp of a tooth, is, in the full sense of the term, surgery. Not knife surgery, but the tearing asunder of the tissues that hold the pulp in its place, and it should be no surprise that a frequent sequence of immediate root filling is an inflammatory condition that makes the tooth sore for two or three days. It is unquestionably better practice, ordinarily, to not fill the root immediately after extirpation, but seal, preferably, with an antiseptic dressing for 24 or 48 hours.

Immediate root filling is practiced, however, by many operators, and especially since pressure anæsthesia enables one to extirpate and fill the root in exceedingly short time; often in 20 or 30 minutes. In the opinion of the writer, the soreness that so frequently follows is of a traumatic character, and if proper precautions have been taken, is not septic trouble.

The pulps of single rooted teeth are, in most instances, easily and expeditiously removed, but superior bicuspid and molar teeth, with their several and often crooked and constricted roots, present some severe and tedious problems. Continued effort must be persevered in, however, until each root is in proper condition to receive a filling. Superior bicuspid sometimes have three roots but the cases are not frequent. Some roots are clogged with a secondary deposit of calcic salts, and special efforts are required for its removal so as to have a free opening to the apex for the root filling. Barbed broaches are dangerous things to use in tracing and cleansing these canals, as they so often become wedged and broken, which seriously complicates and delays the final root filling. Some of the later *spiral* broaches are quite as bad, except that the continuity of the fibers of the spirals are not interrupted at intervals as is a barbed broach, making a weak spot. Some of the spirals are made so small and delicate, however, that when they become wedged at the point one may twist them in two without being conscious of it, or conscious of the little strength necessary to so break them, and especially is this so when a good-sized knob is made on them for thumb and finger hold, giving great purchase. It is truly a disaster to break off broaches or drills in a root, and an experience or two makes most operators careful not to do it again, and some take no chances of such disaster by not using barbs at all. In the hands of those, however, who use them intelli-

gently—that is, with extreme delicacy of touch, and never forcing too hard against resistance, they seem almost indispensable.

The broken broach sometimes is lost in a tooth with a canal large enough or shaped so that it may be crowded over to one side, and, after sterilization has been accomplished, the piece, being left, becomes imbedded in the filling material without detriment.

If, however, this broken bit has been forced into the apical foramen, and possibly partly through, it is essential to safety to have it in some way removed. To this end the rusting process must be resorted to, which may take many days and weeks to accomplish. An iodine solution is frequently used for the rusting and is good, but there is danger of discoloration.

In canals that are straight enough not to bind too much, barbed and spiral broaches are a great help, used in a rasping way and bathed sometimes with diluted sulphuric acid, to soften and release the calcic deposit. In other roots some sort of a flexible drill may be used, but it should be an almost invariable rule to manipulate it with the fingers, and not in the engine. In the fingers the sense of touch gives one control, which is lost with the engine, due, to some extent, to the rapidity of motion, which cannot be checked in time to avoid accident. The bud-shaped head of a drill is one of the worst things one can imagine to have lodged in a root.

Coming to the second class—putrescent conditions, a word of caution is in order to begin with. Entrance into the chamber should be done with care not to force the contents back into the canals, and any attempt to explore roots, as a rule, had better be postponed until a sterilizing application has been used for about 24 hours. To explore putrescent roots where an abscessed condition is not manifest, is a pretty sure way to start one up; so it is better in most cases to remove the contents of the chamber carefully, and possibly what may be dislodged from the orifice of root canals without crowding up what remains, and then seal in, without pressure, a good, penetrating, diffusible antiseptic for twenty-four hours. Explorations may then be made and canal cleaning instruments may be used without the danger that threatens the neglect of these precautions. Of course, if there are indications of an abscess,—of pus at the end of the root seeking an escape, passing a smooth broach to and through the apical foramen and permitting an escape of the accumulation, especially gases, may be the proper thing to do without delay, using antiseptic precautions to prevent the introduction of new germs.

Oil of cloves or oil of cassia of pure quality is used by many opera-

tors to bring about aseptic conditions, and either is good, but some later remedies seem to be much more effective, and the writer has had the greatest satisfaction with a combination—half and half—of tri-cresol and formalin. This is the basis of some of the many abscess cures on the market and advertised as a sure cure. But there are no sure cures, unless the cause is removed, and the initial cause, while usually the sepsis of a dead pulp may develop other conditions that remain as a cause after the sepsis of the tooth itself has been eliminated. A blind abscess is often much more difficult to cure, and takes longer, than one that has developed a fistulous opening. In fact the thorough evacuation and cleansing of a root canal and the fistulous tract with antiseptic remedies forced through is quite sufficient, and a root filling may then be placed with a feeling that nature will do the rest. The filling of the cavity may be deferred until evidence of a clear recovery is apparent.

The evacuation of the contents of a blind abscess is often rather difficult and more so in teeth of the lower jaw than the upper. In any case the escape of pus through the apical foramen, a hair-like opening, is not likely to be very complete without assistance. This assistance may sometimes be given by packing the point of a syringe in the root so tightly that air cannot find ingress and then draw out the piston; or, in other words, making a suction pump of it. When this cannot be done, working a fine broach back and forth through the foramen into the pus chamber, will withdraw some pus with each movement. Absorbent cotton packed in the roots, not too tightly, and left for a day, will withdraw more pus than would naturally find way through the foramen. When the tenderness and fullness have been removed by the evacuating process, whatever it may be, a sterilizing medicament can be sealed in the cavity without the discomfort to the patient that sometimes ensues if the cavity is sealed at the first sitting and without a liberal evacuation of pus.

Of course, all pulpless teeth are not abscessed, but sooner or later that condition, more or less severe, follows; hence the treatment of pulpless teeth has to take into account apical disturbances and fistulous openings. If no indications of an abscess appear in the diagnosis, it is as stated before, important that no such conditions be set up by any misdirected move on the part of the operator. Give a little time to ventilation, as foul gases are always present, and assist by a current of air from the chip blower and then the contents of the chamber having been removed, carefully seal in an efficient sterilizer and wait until the next day.

(Continued next month.)

DENTAL THERAPEUTICS

(By Geo. W. Cook, B. S., D. D. S., Chicago, Ill., Professor of Bacteriology and Pathology, University of Illinois, Professor of Oral Surgery, Dearborn Medical College.)

CHAPTER XXV.

In previous discussions we have dealt somewhat in detail with substances similar to the alkaline salts, and discussed somewhat the pharmacological action of these metals, which might lead to the conclusion that perhaps all substances to be used to establish perfect physiological function must be alkaline in its reaction or at least neutral, but this is not always a fact. It is therefore well to mention that acids may play an important role in carrying out some of the physiological functions of the body, or at least we might say that these agents play an important and somewhat conspicuous role in the physiology of the animal organism and especially the higher forms like that of man.

There is in connection with this subject a feature that is well to bear in mind in the discussion of acids and alkalis, and their relation to physiological function. Most all living matter is either slightly alkaline or neutral in reaction, and with the exceptions to a few forms of the living organisms it is quite impossible for living protoplasmia to carry on its chemical and physical properties in an acid media. The exceptions to the rule may be said to be that of certain low forms of vegetable life, for instance, some specie of moulds, for it is quite impossible for them to live in a very concentrated acid solution.

The activity of acids on living protoplasmia is due principally to the hydrogen ion in the acid molecule. It might be well here to mention that the hydrogen ion is more powerful in its effects on protoplasmia than that of the potassium ion. However, the hydrogen ion in some forms of acids must not be looked upon as the most active element in the molecule, for there is an exception to the rule with reference to prussic or salicylic acids. In these two molecules the hydrogen ion, which we would here call positive ion, is quite insignificant in comparison with the negative ion. The most important action of acids on living tissue is that of neutralizing its alkalinity and the withdrawal of water from the tissue. Of course, this last named action does not take place except in a more or less concentrated form, and when their concentration is more than 0.2 of 1 per cent. they precipitate certain of the proteid molecules, for instance, that of globulin.

Then it will be observed that certain acids are protoplasmic poisons, and under some circumstances can be beneficially used as antiseptics. Owing to the fact that hydrochloric acid is so universally constant in the stomach of man, it has under ordinary circumstances very deleterious influences on the less resistant bacterial life that so frequently passes into the stomach from the oral cavity. The acids that are more active on living tissue cells are those that are readily disassociated or go into solution, thus liberating the hydrogen that at once goes into combination with the protoplasmia, and its deleterious effects will be in accordance with the number of hydrogen ions liberated in the tissue. The anions, however, sometimes have a destructive influence on protoplasm.

When sulphuric or nitric acid is applied to the skin in anything like a concentrated form it destroys the epidermis, and sometimes passes some little distance in the skin and causes necrosis in the subcutaneous tissue, which invariably is accompanied with more or less pain, and the escharotic condition renders the tissue in appearance and sensation very much as that of a burn. When sulphuric acid is applied it causes a whitish appearance of the skin, which later turns black, while that of nitric acid causes a yellow appearance. Hydrochloric acid is not so destructive to the tissue, although it may penetrate more deeply and causes a blistering appearance of the tissue. Phosphoric acid is considerable less irritating and also in concentrated solution causes blistering. The so-called organic acids sometimes only act as a mild irritant, causing a stiffness and sensation of numbness which is due principally to the precipitation of certain proteid molecules, causing but little effect on other forms of proteids. It might here be said that certain acids only attack certain forms of proteid matter, in other words, such forms of proteid molecules as that of globulin are perhaps in many instances the only ones which cause any special disturbances in the function of living protoplasmia. When any form of acid is applied to the tissue like that of the mucous membrane, its action is much more penetrating and in many instances is much more destructive.

When any form of acid is taken into the mouth, esophagus or stomach, it causes a corrosive penetrating action, which manifests itself by complete destruction of the mucous membrane and in some cases may cause perforation of the esophagus or walls of the stomach, resulting in shock and collapse. If the individual recovers from the acute symptoms erosion may follow, which causes cicatricial con-

traction of the tissue, resulting in death to the part. But, as has just been said, the organic acid or even hydrochloric is not so destructive in this direction as that of sulphuric or nitric acid. The general appearance and symptoms following the swallowing of acids are usually those of intense pain in mouth, throat and stomach, sometimes followed by vomiting and diarrhea, shock and collapse following that of rapid, weak pulse, and shallow respirations. The temperature is frequently sub-normal, and if sufficient of the acid has been swallowed death frequently occurs in a few hours. If concentrated acids are taken like that of fuming sulphuric acid or hydrochloric, the vapors pass into the respiratory tract, causing irritation and spasms of the glottis, or oedema of the larynx, and in a very short time causes asphyxiation. If the fumes of hydrochloric acid one in 20,000 of air is inhaled it causes pain in the throat and chest.

Very dilute solutions of acid causes certain characteristic tastes, with an increased flow of saliva with an astringent sensation in the mouth and throat, which is caused by the action of certain forms of proteids on the superficial layer of the mucous membrane. If these dilute forms of acids are taken into the stomach they may cause a displacement of the combination with the weaker acid bases, and in this way may act as antiseptics. The gastric juice under normal circumstances usually contains 0.2 of one per cent of free hydrochloric acid, which is usually very essential to the action of pepsin.

There has been considerable experimental work done to determine if possible if some other form of acid may be substituted in the stomach for digestive purposes instead of that of hydrochloric acid. These experiments have been done by substituting different acids to solutions of pepsin, and noting the amount of fibrin or proteids digested in the course of a certain number of hours. In test-tube experiments it has been found that hydrofluoric and oxalic acid may surpass in some respects that of hydrochloric acid.

It might be well to note here that the results in digestion with the hydrofluoric and oxalic acids depend somewhat upon the kind of pepsin that is used in these experiments. The pepsin obtained from the dog and calves' stomachs differs somewhat in relation to that obtained from the human stomach. The extreme poisonous effects of hydrofluoric or oxalic acids precludes the possibility of their being substituted for that of hydrochloric acid. Therefore, the experimental research upon this subject has established a fact that nature has provided in the animal kingdom the best acid for digestive purposes.

The absorption of acids from the alimentary tract usually takes place very rapidly. In the blood and tissues acids do not exist as acids, but combine with some other substance forming a salt, for it is found that the blood is slightly alkaline throughout life, and if sufficient acid is given to neutralize the alkalinity of the body the animal dies before the blood becomes absolutely neutral, but after death the blood is found to be alkaline in reaction. Nature has provided for the neutralization of the acidity of the blood or tissues differently in different animals; in the herbivora the fixed alkalies of the tissues are called into play more commonly to neutralize the acid than in other forms of animals, and especially the carnivora and man. In the last named animals the protective mechanism of the physiological function apparently is more complete, for it has been found that if acids are taken in that the tissues liberate ammonia, which serves to neutralize the acid, thus saving the neutralization of the fixed alkalies which must ever be present to preserve the normal alkaline reaction of the tissues.

In the study of the alkalinity of the human body it is found that man stands midway between the herbivora and carnivorous animals, for it has been found that after taking in acids that ammonia appears in the urine and the fixed alkalies of the tissues, and in the urine usually in excess when no acid is taken. Consequently, it will be observed that more acid can be absorbed by the tissues of man without producing any deleterious effects than that of either of the other specie of animals. The flesh-eating animals usually become accustomed to the formation of some acids in their tissue, because the alkalies of their food under ordinary circumstances would be sufficient to neutralize the acid formed by the oxidation of the organic matter, thus depriving the animal of their alkaline salts; therefore, they are protected by the formation of ammonia, while on the other hand the herbivorous animal takes in considerable quantities of the organic salts of the alkalies in its food, which renders valuable service to the neutralizing of the acids which are formed in the tissues, and are therefore not provided with any mechanism for the purpose of protecting the fixed alkalies of the body.

In acid poisoning of rabbits the alkalinity of the blood has been found to be so reduced as to contain about 25 volumes of carbonic acid gas, an amount much smaller than could be brought in solution of water. When such a condition exists the animal is unable to rid itself of the carbonic acid gas, which is always followed by deep,

labored respirations, gradually growing more shallow with a weakened condition of the heart, and if continued for any length of time collapse is followed with a continuation for some time of the heart's action.

The salts that are formed in the body after the absorption of acids is usually rapidly excreted by the kidneys. The tissues will retain as much of the alkali as is possible and the acid is excreted in the form of a salt; however, it might be mentioned that some of the free acid is excreted. In such a case there rises some irritation of the kidneys, and there may be present albumin and sometimes blood in the urine. When the urine is more acid than usual it will cause a smarting sensation of the bladder and urethra. In the herbivorous animal when the reaction is changed from an alkaline to an acid, large quantities of salts of the alkalies appear in the urine, while in the carnivorous acid urine shows also an increase of potassium and sodium with an increased amount of ammonium. The total amount of nitrogen is increased which is from the ammonia, but the quantity of urea is slightly decreased.

When poisoning takes place in animals from acids it sometimes causes fatty degeneration of the heart, liver and kidneys, with necrosis of the renal cells. These changes, however, are not due to the free changes in the blood, but no satisfactory explanation has been given for this condition. The prolonged treatment of animals with acids shows loss of flesh and strength, which more likely can be attributed to the disturbance of digestion rather than to any specific effect of the acids themselves.

(To be continued.)



ORIGINAL CONTRIBUTIONS

TOOTHsome TOPICS.

By R. B. Tuller.

Milk:

Cow's milk;

Goat's milk;

Mother's milk;

Malted milk;

Embalmed milk; milkman's milk; skim milk (the kind we get); buttermilk (sans butter); milk shake; milk punch (!); milk on the side (to be taken with ten grains of caution), and gallons of other kinds of milk, not overlooking milk of magnesia, the milk of human kindness, and the milk in the cocoanut, which, figuratively speaking, everybody is trying to get at.

What am I trying to get at? Why, I was just thinking how thoroughly dentists ought to be interested in dietetics; and most of the things mentioned come under that head, and the first thing in dietetics is milk.

The dentist is frequently called upon—and properly—to give advice to young mothers. When Mrs. Youngmother asks: "Doctor, what shall I feed my baby on—six weeks old to-morrow?" you can answer as well as any physician, "Milk, madame; mother's milk."

I can see you saying it with a look almost human on your face, and with an air which, interpreted, reads: "Wise you are, madame, to come to me in these matters"—and perchance you've been graduated only a short time, at that.

Well, that opens the way to talk about malted milk, and how it comes to the rescue at the period of ablactation. And if baby is to have "good timber" in its teeth, why, malted milk does the business. Where is the dentist that does not know malted milk?

And, say, it makes for the dentist—not the baby—when all tired out, an elegant milk punch. All one has to do is to mix up the milk in the usual way with hot water—not too much water—and then, taking the stopper partly out of a bottle of spiritus frumenti,

invert it so that a *few drops* will trickle into the milk. Stir well and then invert the milk so that a little of it will trickle down the throat—smacking the lips at proper intervals.

Passing the malted milk period, as regards building up good teeth for baby (and being good to yourself) we come to the milk of magnesia period—the deciduous teeth, alias milk teeth period.

No, of course, milk of magnesia is not an article of diet, but it has to do with the subject inasmuch as it helps the teeth do their duty in passing the diet, properly prepared, into the system; and as it is a *milk* and a concomitant we'll discuss it a little. The first thing done to baby's new teeth in the way of cleansing should be with milk of magnesia, on a soft sterile cloth. The chances are that you will not be called on professionally to go to the house daily to brush baby's teeth, or have the baby brought to you, but you can tell Mrs. Youngmother all about it.

The first thing to prescribe is prophylactics, and the next thing, if pathological conditions arise, is to prescribe therapeutics—simmered down. That is, prescribe milk of magnesia, to begin with and end with, i. e., night and morning—and through the day, ad libitum. Nothing as a dentifrice is quite so good for the baby. Other things later.

In the matter of decay it is usually lactic acid, under certain conditions, that begins the destruction of the enamel and burrows into the teeth. The preventative, also the remedy to check it, is milk of magnesia. It counteracts acidity and keeps the baby's mouth sweet—and its little stomach, too. Being *stomatologists* you of course know that!!

Say, is there anything sweeter than a nice, sweet baby? I was one myself once—only once—many, many lunas ago. So long ago that I can imagine I sniff the odor of chloroform. Wuh! I don't like it!

Touching this dietary business and giving advice to patients: Are we not *specialists* in medicine? Of course we are. We have been so voted—by ourselves. And by the same consistency we might just as well have voted ourselves M. D.s and saved ourselves no little embarrassment, when called upon to treat appendicitis, to explain that we are only dentists.

We certainly know a whole lot of things about diet all right—more than some M. D.s do. They prescribe this and that and the other as the wholesome thing, but they don't remember that whole-

some diet without good teeth and proper mastication produces dyspepsia just the same. Not only does mastication comminute the wholesome food, but making the jaws go pumps in the saliva that must be mixed in. *Milk should be chewed before going into the stomach.* In other words, it should be well mixed with saliva, and making the jaws go produces the saliva. Anything that keeps the teeth in good order is a concomitant to diet.

Oh, we are a wise lot. Most of us are due to some kind of milk—mother's milk, we of the old school. In this later day of baby foods that discount (?) the mother's breast it is hard to tell what some are due to. If you were brought up on the bottle you have leaned heavily, no doubt, on hydrated, embalmed, skimmed, condensed and milkman's milk; and it is a wonder you are here; and, bad as you are, it is a wonder you are as good as you are.

Most of the milk we get is related to real cow's milk, but has a strain in it of the babbling brook, the prosaic pump, or perchance the poetic iron-bound bucket. Once in, you can't strain it out.

It has been stated, authentically, that but few of us drink water enough. To be healthful our systems should be plentifully irrigated. The honest farmer and the milkman seem combined in an effort to correct for us our irrigating neglect.

Now, to keep cow's milk sweet for a week or two it is embalmed. Then last week's milk will last a week. That is to say, we get, in the city, last week's milk the last of this week or perchance the last of next; and if any is left unsold it may go over into the following week. It is nothing after one gets acciimated. Huh!

Then, too, the honest farmer leaves in a little of the cream. That, however, is not for us. It is too rich. The milkman takes care of that, and we don't get any—unless we don't give a dum for our health and pay 25 cents or 30 cents a quart for it.

When cow's milk is separated from its cream it looks a little blue—we, too, but that don't count. Blue milk don't sell as well as yellow milk and the milkman is anxious to please his customers. A little brown sugar, browned still more by heat, makes blue milk yellow, and sugar is nutritious.

If milk is not embalmed it gets sour and soon has to be thrown away—nit. Buttermilk is in great demand with some people, and the milkman supplies it. Butter do without it, it is healthier. (!!!)

When any of this buttermilk is left over it is finally made into smearcase at 5 cents a lump—three lumps for 15 cents.

I cannot discuss each and every phase of this milk business in connection with dentistry, and it would no doubt be the milk of human kindness (to you) if I would drop it right here; but there is still the milk in the cocoanut which, it seems, has ever been the effort of man and all his antecedents in anthropology—so accused—to get at. There is a good deal of monkey business about it, in my opinion—this antecedent business. It is a pretty hard nut to crack. Whether the milk has been got at or not, I am not at liberty to state, because I don't know. I know what I think; or what I think I think; but what a man thinks he thinks is very often buggy-house. Anyway, that's what I think of what the other fellow thinks he thinks. Sometimes he only thinks he thinks he thinks, with another think coming—if any more in the tank.

Let me touch upon goat's milk and goat butter and then I *will* exercise the milk of human kindness. Concerning the goat, I have been up against him, or vice versa, so I can talk somewhat intelligently—perhaps. The goat lives on rich, dainty foods and hence gives richer milk than the cow. Three pints of goat's milk is better than one quart of cow's milk, and especially if pure. About this *milk*, I must confess I know but little, but it's the butter I am most familiar with. It helped me along on a short journey once.

I know a butter, rather strong, that can talk ægophonous English—a few words. His name is Bill. He was out in a vacant lot, and with a sort of vacant look was contentedly chewing gum—gumshoe—when along that way came an old bum bumblebee who bumbled and bumbled around looking for honey. He was an observing old bum, and he saw Bill's tail sticking up in the air. He wondered what a little bob like that was good for, anyway. Then he thought he'd explore it and see if it had a bone in it—and—he did.

Bill went up in the air three feet and an inch, and by a gymnastic twist landed t'other-end-to, ready to knock the tar out of some ubiquitous small boy, his common enemy. He was duly astonished and perplexed to find nothing to which he could attribute the "sudden jolt." He wanted to *butt in*, but there was nothing to butt into.

In the meantime, old Bum had circled out around and come back. Philosophizing, as bums do, he said to himself: "I don't *believe* I touched the bone. I'll try it once more—and I'll do it *now*." And—he did.

Say! Bill threw a back somersault with a side twist half way over that brought his east end to the west; and he threw it quick and strenuously. He had been eluded before, but this time expected to catch the miscreant red-handed; but there was not a thing to butt but the caloric rays of a summer sun. Bill was too dum dum-founded to speak; but his face had on it a look just like Tommy, his owner, when in that same lot he had been hit in the ear with a hard, green apple, and not another boy to be seen. "Gee!" thought Tommy, "if I c'd on'y git me lamps onter dat — — — —!" and the big tears came—not from the hurt but from anger—fury unappeased. Same with Bill.

Mr. Bum was still sailing in the vicinity in his war airship, and had another bomb left. He drew near again, unsuspected of carrying munitions of war, or a 1010-volt battery, and said to himself: "This is better than a three-ring circus! I'll go it just once more if I lose." And—he did.

Poor, old Bill! This was *too* much. Going through frenzied gymnastics once more, he landed, reared up, curled up his lip in disdain and preplexity, and with the few words of very distinct English he bleated out: "We-e-ll! I'll-'l b-b-e-e-e g-g-o-a-t d-d-d-a-a-m-med!!" What else could he say?



SOCIETY PROCEEDINGS

ILLINOIS STATE DENTAL SOCIETY.

The recent meeting at Moline was probably the largest state meeting ever held, the reorganization plan having brought the membership up to 1,200, the largest in the world. Quantity does not always count, but in this case quality was also present, and the essays and discussions were of a very high order.

A "Special" carried the Chicago delegates and was well filled. The train was met by an enthusiastic reception committee headed by the irrepressible Dr. Prichard, better known as "Old Sozy," who with his accustomed originality had procured the services of the Moline Silver Cornet Band, and we were marched in regal style to the Manufacturers' Hotel, where we were met by the local committee and assigned to our several sleeping quarters located in various parts of the city. The local committee, consisting of Dr. R. M. Pearce of Rock Island, J. W. Gluesing and W. L. Skidmore of Moline, worked night and day to make up for the folly of holding a large convention in a small town. Everything in their power the individual members of this committee did to entertain their guests, and they deserve and have the thanks of the visitors. Only a small portion of the guests could be served at the one hotel in the town, and the choice lay between standing in line at the door of the dining room or braving dyspepsia at the so-called restaurants; but whether you were able to crowd into the dining room or not made no difference in your bill. Mr. Wiggs at the desk politely informed you that it was there for you, and you could eat or not, but pay you must. This is a system of robbery that should interest legislatures. Dental supply houses have goods for you and it would be a fine thing if the proprietor would say to you, They are here for you and you can take them or not, but you must pay at any rate. We can see no difference. The reception by the ladies of Moline was royal and will long be remembered by those present. A fine musical program under the direction of the ever genial Dr. Gallie of Chicago, was given, including imitations by Dr. Prichard, which were highly appreciated. Dr. F. Drake of Chicago sang "Illinois,"

and directed the chorus, which was heartily sung by the entire company. F. A. Thomas and H. T. Wheelock of Moline sang solos, which were well received and applauded.

The meeting was called to order at 10 a. m. Tuesday morning with President C. N. Johnson presiding. The invocation was pronounced by Rev. B. F. Martin, followed by a spirited address of welcome by Mayor Andrew Olson, who was loudly applauded. Dr. D. M. Gallie responded, as only Don could.

The annual address by Dr. C. N. Johnson followed. The Doctor spoke of the growth of the society under the reorganization plan, which had increased the membership from 400 to 1,200 in one year.

Reports of committees was the next order of business and following reports were made: Committee on Dental Science and Literature, by Dr. E. H. Allen, Freeport; Committee of Reorganization, by Dr. Arthur D. Black; Dental Art and Invention, by J. H. Prothero, Chicago. This was followed by reading of papers.

"A Few Practical Observations on Oral Prophylaxis," by C. B. Rohland, Alton, was the first paper. This paper reviews the writings covering the recent revival of interest in oral prophylaxis, showing that nothing new has been presented, but gives Dr. D. D. Smith of Philadelphia credit for his work in defining and describing the treatment. The revival is due to the thorough systematic and frequent treatment exacted, especially the frequency, and to Dr. Smith's demonstration of results, which prove that as a rule we have failed in our duty to our patients. The essayist gives his own testimony and experience as to results. Gives outline of treatment, divided into home and office. Views of the armamentories, germicides and mouth washes, which should be mainly for office use. Patients should be encouraged in faithful mechanical cleaning. Scalers should be selected to suit each operator. Powders are useless without grit. Tooth brushes should have some backbone and stiffness. The toothpick. The stick. A field for women. What the office girl can do.

"Dental Medicine," by J. P. Buckley, Chicago, was the next. In considering this subject it is the intention of the writer to emphasize the importance of a thorough knowledge of drugs and their combinations. Especial attention will be given those drugs valuable to the dentist.

Prescriptions were written and formulæ given for various remedies on accompanying chart. All these included remedies to be used

for desensitizing the dentine, devitalizing the pulp tissue, local anesthetics, mouth washes, pyorrhea mixtures, counter-irritants, putrescent pulps, local abscesses, etc. Also remedies for internal administration in cases of acute alveolar abscess, neuralgia, etc.

"The Maxillary Sinus and Its Diseases" (illustrated by Papier-Mache Model), by Thomas L. Gilmer, Chicago, was very interesting. The antrum of Highmore is the largest of the intramural air sinuses. Its lining differs from that of the nasal fossæ in that it is less vascular, therefore less able to withstand injury or resist infection. The anatomical relationship existing between the nasal fossæ and the antra, also the relation it bears to other nasal accessory air sinuses renders it liable to infection when the other parts are involved.

The diseases to which the maxillary sinus are subject are, hyperæmia, resulting in some instances in engorgement, suppuration, cysts and neoplasms. Suppurations of the antrum are due to traumatism, to extension on inflammation from the nasal fossæ through continuity of tissue, and the diseased teeth.

The symptoms of acute maxillary sinusitis are a sense of fullness and pain in the cheek, a sense of bulging of the eye with rise in temperature and shadow on transillumination. Chronic suppuration is indicated by offensive purulent secretions in the nose and throat, with shadow as above.

Arsenic applied for the destruction of the pulps in the upper posterior teeth may, when the apices of these roots approximate very closely to the floor of the antrum, cause inflammation of the sinus. So may forcible injection of medicaments into such roots for disinfection. Neoplasms of the antrum are occasionally seen. Such growths are especially malignant in these localities.

If there is polypoid degeneration of the lining of the antrum, or if there is necrosis of its osseous walls, then a radical exploration and for a good view of the walls of the antrum the anterior buccal wall operation is preferable to nasal route.

After-treatment is quite as important as the operation, and should consist of irrigation and packing for several weeks.

"The Penetration of Dentine by Fluids Under Pressure," by W. A. Johnston, Peoria, caused considerable discussion.

The essayist has been conducting a series of experiments upon the penetration of dentine by fluids under pressure, using freshly ex-

tracted teeth for the experiments. A report was made stating what the essayist expected to prove before he began the experiments and the actual results.

"Cement" (with lantern illustrations), by G. C. Poundstone, Chicago.

This paper is a report upon a series of experiments with cements from a somewhat different standpoint from that of other investigators. A short review of previous papers, "A Microscopic Study of Cements," read before the Illinois State Dental Society one year ago, and "The Cement Problem in Inlay Work," read before the Fourth International Dental Congress, is taken up and attention is called to the appearance of the different cement powders, the size of their granules, etc. The appearance of thin films of cement during the process of setting is shown by lantern slides made from micro-photographs.

The principal topic under discussion in this paper is the penetration of moisture between the cement and the cavity wall. Experiments in addition to those in the previous papers mentioned are cement fillings placed in ground glass tubes, in many of which the moisture passed the entire length of the tube within a few days.

In another series, two tubes were fitted one within the other, the approximating surfaces being coarsely ground to represent approximately the conditions in inlay work. These tubes were then cemented together, just as in an inlay, would be set into a cavity and placed in the mouth and allowed to remain there one hour, after which they were kept in water eosin stain. After a corresponding length of time the same results were obtained as with the tubes containing the cement fillings.

Two cements at least show no penetration of moisture.

"Reports of Experiments with Plaster Paris," J. H. Prothero, Chicago.

This paper deals with the compressibility of plaster of paris, showing by means of an especially constructed microdynamometer the evil results of using too much force in closing packed vulcanite cases.

Demonstrations also given to show that mixing plaster in various ways affects its density and capability of resisting compression.

Suggestions as to the best means of obviating the difficulties mentioned were offered.

"Porcelain Bridge Work," Hart J. Goslee, Chicago.

The paper embraces a brief resume of the history of porcelain as applied to the construction of dental bridgework, and dealt with its application to both "removable" and "fixed" appliances; the indications and contraindications for its employment; its general practicability; the cause of failures and successes; the utility of the "saddle"; the principles underlying the construction of the metal superstructure, and a consideration of the various "bodies" used for the purpose, together with their comparative advantages and disadvantages, and followed by methods of manipulation and requirements of mounting.

"Practical Treatment of Pyorrhea," Austin F. James, Chicago.

This paper is confined to practical treatment, showing instruments used in removing deposits and the treatment of the gums and teeth both before and after removal of deposits. The essayist maintains that the disease is local and that local treatment is all that is necessary to effect a cure.

"Advertising in Dentistry," or "Commercialism vs. Professionalism," by G. H. Henderson of Springfield, followed.

Wednesday and Thursday forenoons were devoted to Clinics, and the program as printed was carried out with few exceptions. Springfield was chosen as the next place of meeting, and the election resulted in the following selections: Dr. S. F. Duncan of Joliet was elected president, Dr. L. W. Skidmore, Moline, vice president; Dr. Elgin MaWhinney, Chicago, secretary, and Dr. C. P. Pruyn, Chicago, treasurer. Dr. T. W. Brophy, dean of the Chicago College of Dental Surgery, gave a banquet at the hotel for graduates of that college, and the graduates of the North Western University were treated in a similar manner at the Moline Club.

J. L. F.



SOCIETY ANNOUNCEMENTS

AND REPORTS OF MEETINGS

PENNSYLVANIA STATE DENTAL SOCIETY.

The 37th annual session of the Pennsylvania State Dental Society will be held in the Bellevue-Stratford Hotel, Philadelphia, on the 27th, 28th and 29th of June.

CENTRAL MICHIGAN DENTAL SOCIETY.

The annual meeting of the Central Michigan Dental Society was held at Lansing, March 28-29, and the following officers were chosen for ensuing year: President, Dr. Ralph W. Morse, Lansing; Vice President, Dr. S. A. Horning, Portland; Secretary and Treasurer, Dr. Ora C. Carr, Lansing.

MICHIGAN DENTAL ASSOCIATION.

The 49th annual meeting of the Michigan Dental Association will be held at Detroit, Mich., July 10, 11 and 12. An unusually attractive program has been provided for and the entertainment features as arranged by the Detroit Dental Society are very complete.

A. L. Le GRO, Sec'y.

WISCONSIN STATE DENTAL SOCIETY.

The thirty-fifth annual meeting of the Wisconsin State Dental Society will be held at Oshkosh, Wisconsin, July 18-20, 1905. An excellent program of papers and clinics is being prepared by the Executive Committee. All ethical members of the profession are invited to meet with us.

W. H. MUELLER, Secretary.
Madison, Wis.

INDIANA STATE BOARD.

The Indiana State Board of Dental Examiners will hold their next regular meeting at Indianapolis in the Capitol, June 13th, 1905.

Applicants for examination must possess diploma from recognized college, or must have five years' dental practice under a reputable practitioner of this State. Examination fee, \$20. No special examination granted to practitioners already in practice. Reciprocal interchange of license with the State of New Jersey in accordance

with the provisions of the Asheville resolution. Applications for examination must be made to the Secretary by June 8th. Secretary, Dr. F. R. Henshaw, Middletown, Ind.

Very truly,
F. R. HENSHAW.

CALIFORNIA STATE DENTAL ASSOCIATION.

At a meeting of the Board of Trustees of the California State Dental Association, held in San Francisco, February 10th, it was unanimously decided to adjourn the State meeting for 1905 in favor of the Lewis and Clark Dental Congress to be held in Portland, July 17, 18, 19 and 20.

JOSEPH LORAN PEASE, Cor. Sec'y.

Central Bank Building, Oakland, Cal.

NATIONAL ASSOCIATION OF DENTAL FACULTIES.

The annual meeting of the N. A. D. F. will be held at Buffalo, commencing at 2 p. m. on Thursday, July 27, 1905. The Executive Committee will meet at 10 a. m. the same day. Special business to come before the N. A. D. F. is the consideration of the proposed revision of the constitution and by-laws.

H. B. TILSON, Chairman Ex. Committee.

JOHN I. HART, Sec'y Ex. Committee.

INTERNATIONAL DENTAL FEDERATION.

The next annual meeting of the Executive Council of the Federation Dentaire Internationale will convene in Hanover, Germany, August 7, 1905, immediately following the annual meeting of the Central-Verein Deutscher Zahnärzte. Announcement of the program for the meeting and the projected work for the Federation during the present period will shortly be made through the dental journals and through the official bulletin of the Federation.

EDWARD C. KIRK,

Secretary-General.

SOUTH DAKOTA STATE BOARD OF DENTAL EXAMINERS.

The next meeting of the South Dakota State Board of Dental Examiners will be held at Mitchell, S. D., July 11, beginning at 1:30 p. m. All candidates will be required to do practical work in both operative and prosthetic dentistry and should bring all instruments and materials necessary to do the same. Vulcanizer, lathe, and swaging appliances will be furnished by the board. Application, together with fee of \$10.00, must positively be in the hands of the secretary before July 7th.

Yours sincerely,

G. W. COLLINS.

THE IOWA STATE BOARD.

The Iowa State Board of Dental Examiners will hold its first examination for 1905 at Des Moines in the capitol building, May 2d and 3d, beginning at 9 a. m.

The second meeting for examination will be held at Iowa City June 15th and 16th. All those expecting to take the examination should file their application two weeks previous to the examination.

E. D. BROWER, Sec'y,

Le Mars, Iowa.

WISCONSIN STATE BOARD OF DENTAL EXAMINERS.

The next meeting of the Wisconsin State Board of Dental Examiners for examination of candidates for license to practice dentistry in Wisconsin will be held in Milwaukee, June 26, 1905, at the Wisconsin College of Physicians and Surgeons, corner of 4th St. and Reservoir Ave.

Application must be made to the secretary fifteen days before examination. The candidate must be a graduate of a reputable dental college, or have been engaged in the reputable practice of dentistry consecutively for four years, or an apprentice to a dentist engaged in the reputable practice of dentistry, for five years. For further particulars apply to

J. J. WRIGHT, Secretary,

1218 Wells Bldg., Milwaukee, Wis.

NEW JERSEY STATE DENTAL SOCIETY.

The thirty-fifth annual meeting of the New Jersey State Dental Society will be held in the Auditorium, Asbury Park, N. J., commencing July 19th, and continuing until July 22d. Headquarters at Hotel Columbia; rates per one person in room, \$3.50; two persons in room, \$3.00. Meeting will commence promptly at 10 a. m. on the 19th. The various committees have been successful in securing eminent practitioners for papers of present interest. Some fifty clinicians in the most modern up-to-date dentistry and the space in the large Auditorium most entirely filled with all the newest appliances to practice dentistry. Friday evening will be devoted to the social side with a smoker, including a collation and entertainment to the guests, exhibitors and members. Cut out now the week of July 17th and meet with us. Seven hundred and fifty-six dentists registered last July; make it a thousand this year.

CHARLES A. MEEKER, Secy.

NATIONAL SOCIETY MEETINGS.

- Lewis and Clark Dental Congress, Portland, Ore., July 17-20.
National Dental Association, Buffalo, N. Y., July 24.
National Association of Dental Examiners, Buffalo, N. Y., July 24.
National Association of Dental Faculties, Buffalo, N. Y., July 27.
Northwestern Dental Association, Rutland, Vt., Oct. 18-19.

STATE SOCIETY MEETINGS.

- Alabama Dental Association, Gladsden, May 9-12.
California State Dental Association, no meeting except Lewis and Clark.
Florida State Dental Society, Sea Breeze Beach, May 31.
Indiana State Dental Association, Indianapolis, July 27-29.
Kansas State Dental Association, Topeka, May 18-20.
Kentucky Dental Association, Lexington, May 15-16.
Maine Dental Society, Portland, July 18-19-20.
Massachusetts Dental Society, Boston, June 7-8.
Minnesota State Dental Association, Minneapolis, June 1-2-3.
Missouri State Dental Association, St. Louis, May 24-26.
Nebraska State Dental Society, Lincoln, May 16-17-18.
New Jersey State Dental Society, Asbury Park, July 19-20-21.
Oklahoma Dental Association, Oklahoma City, May 15-17.
Pennsylvania State Dental Society, Philadelphia, June 27-28-29.
South Carolina State Dental Association, White Stone Springs, July 18-19-20.
South Dakota State Dental Society, Mitchell, June.
Texas State Dental Association, Austin, May 18-19-20.
Wisconsin State Dental Society, Oshkosh, July 18-19-20.

THE MISSOURI STATE DENTAL SOCIETY

Annual meeting of the Missouri State Dental Association will be held in St. Louis, Mo., May, 24th, 25th and 26th, '05.

The following papers have been secured:

Dr. J. H. Kennerly, St. Louis, Mo., President's Address; Dr. W. A. Thornton, Chatham, Ontario, Bridge Work—the best means of avoiding an undesirable display of gold; Dr. John Q. Byram, Indianapolis, Ind., Some phenomena observed in fusing porcelain; Dr. J. D. Patterson, Kansas City, Mo., Predisposition; Dr. Edmond Noyes, Chicago, Ill., The Administration of Anesthetics by Dentists; Dr. F. E. Cheeseman, Chicago, Ill., The mistake of the past in Porcelain Inlays; Dr. H. W. Loeb, St. Louis, Mo., Demonstration of the relations of the Antrum of Highmore.

The complete programme is now in the hands of the printers, and will be ready for mailing in a few days.

The headquarters will be at Hotel Jefferson and rates will be: Room without bath, \$1.50 and up; two in room without bath, \$1.00 and up each; room with bath, \$2.50 and up each; two in room with bath, \$1.50 and up each. European plan only.

A rate of one and one-third fare has been secured on all railroads.

LEWIS AND CLARK DENTAL CONGRESS.

The meeting of the Lewis and Clark Dental Congress, to be held in Portland, Oregon, July 17, 18, 19 and 20, 1905, promises to be the largest ever held on the Pacific coast.

The Committee on Clinics asks for voluntary clinics or table demonstrations from members of the profession and suggests that notice of the same be sent the committee as soon as possible.

In order that the program be complete, names of clinicians and clinics must reach the chairman not later than June 15th.

G. H. NOTTAGE, Chmn. Com. on Clinics,
Oregonian Bldg., Portland, Oregon.

F. I. SHAW, Seattle, Wash.

B. S. SCOTT, Tacoma, Wash.

A. STARK OLIVER, Spokane, Wash.

C. E. POST, San Francisco, Cal.

CLAUD W. GATES, Salt Lake City, Utah.

J. H. HOLMES, New Westminster, B. C.

A. W. CATE, Boise, Idaho.

W. H. BARTH, Great Falls, Montana.

THE NORTHERN OHIO DENTAL ASSOCIATION.

The 46th Annual Meeting of the Northern Ohio Dental Association will be held June 6, 7 and 8, at Gray's Armory, Cleveland.

This is not only one of the oldest, but is one of the very best attended meetings in the country. This year the program is one of unusual strength and interest. The leading subjects for consideration are:

1. Humanitarian Methods.
2. Mistakes.
3. Prophylaxis.

Under the first is considered High Pressure Anesthesia by Dr. C. G. Myers, of Cleveland, Ohio; and High Pressure Anesthesia as Compared with Other Pain Preventing Methods, by Dr. D. H. Zeigler, of Cleveland.

Essays under the second group include the Mistakes of the Country Dentists, by Dr. R. D. Wallace, Scio, Ohio; Mistakes of the City Dentists, by Dr. F. J. Spargur, Cleveland, Ohio; and Mistakes in Ethics, by Prof. S. H. Guilford, of Philadelphia, Pa.

The third includes the Essays: Two Sources of Tooth Life and

Their Relative Importance, by Dr. D. D. Smith, of Philadelphia, Pa.; and Diseases of the Peridental Membrane and Treatment, by Dr. J. V. Stahl, of Wooster, Ohio.

The Essayists and those who open discussion upon the various papers, have been selected for their particular fitness to handle subjects assigned to them.

Under Mistakes in Ethics, Dr. Guilford will point out, as only he can, some mistakes that are being made by the profession in the relation of its members to each other, together with the mistakes made in treatment of patients and the public. Great good is expected to result from the presentation of this paper and the discussions that follow. Many false impressions have existed in the past and still exist as to the duties we owe to each other, our patients and the public, and it is expected that the three papers on mistakes will do much to correct this.

Dr. Smith's paper bears upon that all-important subject, prophylaxis; he will bring a patient with him, showing results accomplished by his method of procedure. He will illustrate his paper with models and instruments.

Throughout the entire program much attention will be given to the study of Humanitarian Methods. (Methods which make it possible to perform dental operations free from pain.)

The two papers, Application of High Pressure Anesthesia and High Pressure Anesthesia as Compared with Other Pain Preventing Methods, and the discussions to follow, will set forth all that is known of importance in this connection.

There will be about 50 Clinics selected and arranged to give the knowledge-seeking dentists the best post-graduate course that can possibly be obtained in a three days' meeting. One session will be devoted to the study of manufacturers' exhibits. The exhibits this year are to be one of the interesting features of the meeting, and the Committee has been promised one of the largest exhibits shown in the country.

All communications pertaining to Clinics or exhibits should be addressed to the Corresponding Secretary, Dr. W. G. Ebersole, 800 Schofield Building, Cleveland, Ohio.

Special rates of a fare and a third have been granted on the certificate plan by the Central Passenger Association.

The Committee extend a most cordial invitation to the members of the profession to attend.

W. G. EBERSOLE	} Executive Committee
GEO. H. WILSON	
VARNEY E. BARNES	

COLLEGE GRADUATES

UNIVERSITY OF TENNESSEE.

Dental Department, University of Tennessee.

Commencement exercises of the University of Tennessee was held May 4th, with following graduates: E. H. Anderson, Mississippi; Robert Caesar Alexander, Tennessee; Carl E. Bailey, Texas; Harris Augustus Bell, Mississippi; Curtis Crownover, Arkansas; T. C. Carden, Kentucky; Walter De Tarnette Coleman, Mississippi; William C. Dennis, Mississippi; Beamon H. Edwards, Mississippi; James Cicero Gamble, North Carolina; M. O. Gordon, Tennessee; Fred B. Quinn, Texas; James Echols Hudson, Tennessee; Evan C. Huston, Texas; Albert C. Hollingsworth, Mississippi; Will C. Tarnagin, Tennessee; William C. Jones, Texas; C. B. Kennedy, Louisiana; William H. Brown, Kentucky; Miss De Lan Kinney, Tennessee; Andrew T. McMarkin, Tennessee; Whitman Lamar Mounce, South Carolina; Edward T. Murphy, Mississippi; Chas. C. Murray, Tennessee; Mrs. Wayne Humboldt Neville, Kentucky; Benton McMillin Pipkin, Tennessee; Carl Marvin Puryear, Kentucky; Reube Reynolds Ratliff, Mississippi; John Alfred Roberson, Tennessee; Robert Harrison Roux, Florida; T. Lee Stantill, Tennessee; Alva Bryan Stewart, Tennessee; Wilber B. Summers, Tennessee; George Johnson Sugg, Kentucky; John D. Meldon, Tennessee; James Erskin Wilson, Mississippi; C. S. Wheeler, Texas.

INDIANA DENTAL COLLEGE.

The twenty-sixth annual commencement exercises of the Indiana Dental College (Department of Dental Surgery of the University of Indianapolis) were held Monday evening, May 8, 1905.

(Members of National Association of Dental Faculties and Recognized by National Association of Dental Examiners.)

Class Roll: J. B. Banks, A. G. Barrett, H. P. Brand, E. V. Bull, J. C. Canfield, J. M. R. Canfield, J. B. Carr, John Cloyd, C. R. Cofield, C. S. Coppock, F. E. Cording, R. J. Coss, G. K. Croker, S. J. Cunningham, C. R. Davis, O. A. Day, P. G. Dixon, L. W. Downs, F. Earhart, Frank Fay, Theo. Fullen, O. B. Galloway, R. G. Haas, Dillon Hacker, C. B. Hamilton, Walter Harding, F. W. Harold, Jos. Hemsley, J. T. Hoopingarner, Fred R. Houck, C. C. Howell, H. R. Hunter, Geo. Jackson, Frank Kimberlin, W. R. Kirtley, T. F. Lewis, Burt Mangold, H. H. Meier, Harry Miller, Wm. Miller, H. L. Murphy, Howard Myers, J. B. Needham, Harry Parr, Frank L. Patterson, Fred I. Petterson, S. E. Ratcliffe, W. G. Rice,

J. M. Richer, E. M. Risacher, G. W. Russell, Jas. C. Schermerhorn, S. E. Shoemaker, A. R. Shonkwiler, L. F. Smith, J. H. Sommers, O. E. Stiver, Hubert Stoddard, Arthur Timmis, J. E. Whitney, B. A. Widup, Carl Will, Sarah Willey, H. M. Williams, W. L. Withers, G. E. Wright, H. M. Yaple, Collins Yerza, J. O. Zubrou.

BBRNES DENTAL COLLEGE

The second annual Commencement of the Barnes Dental College, Dental Department of Barnes University, was held Wednesday evening, May 3d, at the Y. M. C. A. Hall, St. Louis, Mo. The Doctorate address was delivered by Professor E. R. Meng, M. D.

The degree of "Doctor of Dental Surgery" was conferred by the Dean, Burton Lee Thorpe, M. D., D. D. S., upon the following students: Cleo Park Strawn, St. Louis, Mo.; Frank Herman Lohmeyer, Springfield, Mo.; William Asbury Solomon, Palmyra, Ill.; William Lester Lynes, St. Louis, Mo.; Thomas Frederick Magers, New London, Iowa; Joseph Mort McKim, Jr., Newark, Mo.; Lawrence Henry O'Brien, Sappington, Mo.

The first honorable mention was awarded to Dr. Cleo Park Strawn, St. Louis, Mo., for the best general examination.

The second honorable mention was awarded to William Asbury Solomon, Palmyra, Ill.

CHICAGO COLLEGE OF DENTAL SURGERY.

The twenty-third annual commencement exercises were held May 2nd with following class roll: Albert Benton Ames, William Conrad Appel, Frederick Albert Axon, John Bernhardt, Ira E. Boyer, Michael Joseph Bisco, Robert Peter Booth, Arthur Alfred Brecheisen, Levi Duke Barnum, Richard Max Bromund, Roy Alvah Barron, John Oliver Brake, Eugene Rolla Butts, Oliver Hyer Budge, George Merton Burdick, Roy Harold Banks, Grattan Doran Connell, Thomas Michael Cannon, Joseph Emmett Cummings, Albert Douglas Callum, Earl H. Chappelle, James Hartwell Cardwell, James Salmon Calderwood, John James Donelan, Richard Henebery Daniels, Harry Emmett Donahoe, Carl Asa Dickinson, Jay Garfield Davies, Joseph Allen Daniel, William Douglas Dunlop, Ph. C.; Andrew Dimond, Januarius William Dimond, Delmer Coast Davenny, James Kendrew Day, L. D. S., R. C. S. E.; Bruce B. Devlin, Lloyd Roscoe Eller, Leslie Eugene Eaton, Edward Lemotte Eustice, Friend Eccles Elliott, Friend Richard Eccles, Thor Fritjof Fossum, Herman Frederick Flemming, Lewis Ray Frace, Guy Edwin Farley, Fernando William Fuermann, Philys Stamor Gardner, William Garfield Gates, Thomas Porter Gunning, James Goldring, Leon Gregory Gross, Hubert Marion Glew, J. Luman Godfrey, George Maxwell Gorrell, Rupert Estell Hall, Glenn Downing Hughes, Earl James Huston, John Frederick Hohenadel, Bruno Henry Harms, Charles George Hartley, Karl Frederick Hausmann, Claud Bowers Hostet-

ler, Gilbert Andrew Howatt, Owen Clyde Hays, Henry Welch Hastings, George R. Howe, Homer Cleveland Hendricks, Harold Edwin Holbrook, B. S.; Lee Erwin Haight, Walter Lloyd Hyde, Robert Elmer Handley, John Emil Hoffman, Otto Earl Jelinek, Edgar Vance Jones, B. S., Ph. G.; Harry Neville Jones, Harry Irving Kramer, Charles Raymond Knight, Ernest Kelly, James Aloysius Kerrigan, Lars Alof Larson, Edwin Lem Long, Bradley Wills Linscott, William Frederick Lubahn, Manley Robert Lappin, Max Levy, George Mathew McMann, William Ivey Macfarlane, Arthur Wellington Morris, John Arthur Manning, Charles Bryant Mead, Lucius Wayland Munger, Edwin Barrion Main, John Mietus, Joseph McKee McCullough, Herbert Calder Mitchell, Ralph Charles Matteson, Franklin Gifford Moore, Duncan William McEwen, Louis Charles McDonald, Edward Ferdinand Museus, Samuel E. Miller, Martin Laurance McEvoy, Daniel Jennings McCartan, Fred Speed Morrell, William Randolph McKinley, George Henry Newhouse, Charles John Nenahlo, Gordon Baggarnie New, Emil Edward Nussle, Jr., Harry Grant Nelch, Joseph Newton Novashelsky, Franklin Cook Osgood, Henry Elton O'Neal, Archibold Bennett Patterson, Walter Thomas Page, Leland Edward Phelps, Franklin John Reiber, Brant Cotter Ross, Otto Carl Rather, Per P. Ravensborg, Frank Leo Ryan, William Virgil Ryan, B. S.; Clifton Reed Robinson, William Aaron Roth, Ph. B.; Alva Guy Reardon, Miner Thomas Richards, William Henry Reid, Morbeck William Sumner, Lorne Daniel Steele, Augustus David Shaffer, Philip Meck Swinehart, Guy Vinton Smith, Frank A. Stewart, Augustus Jacob Scritsmier, James Oakley Schoonmaker, J. Lencie Smith, Roy Bryant Smith, Roland Purcell Saunders, Simon Burtrum Shaeffer, Henry William Silvernale, Samuel James Shaw, Oscar George Specht, Perry Gifford Stordock, Edward Lynn Sawyer, Carl Milton Schwendener, William Frederick Schatz, D'Enice Theophilus Thronson, Garnet Beverly Tovell, Wilhelm Thiersch, Horace Lee Trafford, Herbert Lewis Thorp, Albert Henry Tanner, Homer Frederick Van Drezer, Halsey Van Doren, Leo John Viall, Leon William Viall, Chester Herbert Willey, Samuel Frederick Webert, Yott Edward Whitmore, Harry Clifton Wands, Clyde C. West, Willie Ernest West, Otto Peter Wiltz, Homer Rex Whitney, Paul George Wilson, Owen Clarence Watson, L. D. S., D. D. S., Lockwood Wing Yates, John Quigley Young, William Edward Young.



SELECTIONS

THE FILLING OF ROOT CANALS.

BY BEVAN W. NEAVE, L. D. S.

(Read before the University of Sydney Dental Graduates' Association.)

Let us consider in this matter that we have before us a tooth which is thoroughly aseptic and from which the pulp has been removed as completely as possible. Obviously we cannot simply insert our gold or plastic filling in the cavity as if there were no canal; we have certain important steps to take before this can be done. We have to consider the numerous materials at our service, to try and select the one best fitted to answer our purpose. We should also consider the why and wherefore of the selection, and be prepared to dismiss the finished operation with a favorable prognosis; and the condition of the tissues round the tooth and at the apex should be also taken into consideration.

We should have no trouble in this selection were there an ideal material, but, unfortunately, there is not one. To be so, it should own too many virtues. Just as the choice of a filling material for a carious cavity is usually made from a number, none of which is idealistic as regards more than nine-tenths of its properties, so here we have a great number of preparations before us, no one of which is absolute perfection.

Gold is difficult to apply accurately and more difficult to remove. Oxychloride of zinc is difficult to remove and is irritating to vital tissues when in contact with them. G. P. shrinks when applied in the form of Chloropercha, and so we can go on through the whole series of them, picking each to pieces, and yet each has its advantages. To be ideal some preparation must be sought for which is easy of application and thoroughly fills the finest of canals. It should have no irritating effect on any living tissue against which it may be placed, and yet should be an antiseptic. It should seal the apical foramen in such a manner that liquids or substances of any kind can neither pass inwards to nor outwards from the pulp chamber. Again, readiness of removal, should such a course be necessary, is indispensable, and finally it should remain unchanged by any action in its immediate neighborhood. So many people are looking for per-

fection in so many branches of so many professions and trades, that if we followed Diogenes' example, lanterns would be in nearly every hand.

Let us first consider gold in its capacity as a root filling. This was the material first used, being introduced about the middle of the last century by Dr. Maynard. To insert it is difficult, for extreme care must be taken to exactly seal the apical foramen, driving the gold neither too far, so irritating the tissues beyond—nor not far enough, so leaving part of the canal unfilled, either of which conditions is very undesirable. Of course the soft variety is used, in minute pieces, and the canal may be completely filled with it, or the apical portion only, finishing the canal with some other material.

Before commencing to insert the gold, the exact length of the canal must be obtained—this can be done with a fine broach on which is fixed a small gauge of leather or rubber—this gauge accurately marks on the broach the length of the canal. The first pieces are carefully tapped to position, in preference to being pushed, for there is less risk of driving them too far. As the canal becomes filled, special canal fillers may be substituted for the broach, and these are often simply Gates' Glidden drills with the head broken off, or ground flat. As I have already stated, it is extremely difficult, if not impossible, to remove the gold, once it is in position, thus one has to be extremely careful that there will never be any necessity for that course or else be content with one of the other materials.

Shredded tin has also been advanced instead of gold, it has the same advantages as gold and possesses the same drawbacks. Certainly when one is absolutely convinced that no untoward results will follow there is no better filling than these metals, but even nowadays this full confidence is rare.

Gold or, for the matter of that, any suitable metal is often used in the form of a cone made from very soft wire driven into the canal. Those metals are debarred from the anterior part of the mouth, which have any tendency to oxidation and discloration of the dentine, just as any drugs causing the same thing are not used in these positions. We need only consider the discolorations caused by copper or oil of cinnamon to recognize this. The metal cone is never used by itself, but always as the base for some other substance, such as oxychloride of zinc, paraffin or guttapercha (the great advantage of this method, especially when guttapercha is used, is that the dressing is very readily removed from the root). To facilitate this also, the head of the cone is left protruding well from the canal into the cav-

ity of the tooth, to leave a handle by which it may be pulled out. In cases where the prognosis is doubtful this is a very safe method.

Yet another plan of filling root canals I had better mention here, is that of using wooden points dipped in some drug like creosote or one of the essential oils. This method is not much used and seems to be of no great value, its advantages being possessed by so many other substances which may not have its disadvantages.

Cotton wool is very frequently used—not alone, but as the vehicle for such agents as the essential oils, creosote or bichloride of mercury. Its advantages are easy of adaptability in the larger canals and ready removal if required, but there is not wanting evidence as to its becoming filled with products of decomposition, the drugs become dissipated, and their influence lost, nearly all of them leaving no trace after a short while, iodoform being one of the exceptions.

One can very readily see that many of these methods are not likely to always succeed, owing to the failure on the part of the operator to correctly ascertain the conditions of shape and size of the canal under which he is working; especially when one considers the very great variability in the forms of the roots of teeth. Even in extracted teeth, where one can see exactly the length and direction of the canals, it would be often difficult to perfectly fill them; how much more when their length, direction, or even number are not known, and one is working in a strained position with the mirror.

To aid us in our treatment of these rather more doubtful root canals we have a choice of plastic materials. This group is very much more used nowadays than the metallic substances, owing to the more ready removal and easier adaptation of its members.

Taking first of all oxychloride of zinc, here perhaps we have probably the most valuable of root fillings. It nearest approaches the ideal, but has unfortunately its disadvantages; namely, it is difficult to get it into fine canals, or into canals with any trace of moisture, and it is difficult to remove. On the other hand it is antiseptic in its action, especially when yet in a liquid condition, owing to the inc chloride present which acts by coagulating the albumin in its neighborhood. This coagulation is of service, in that it blocks the dentinal tubules and minimizes any risk of septic interference from that quarter. It has been shown that zinc chloride quickly diffuses through a

capillary containing albumin, forming albuminate of zinc, which is a most efficient preservative.

Probably when the cement has set, this antiseptic action is not nearly so strong, but by that time the neighboring tissues will have been quite sufficiently sterilized. Another advantage of this coagulating action is that if any fragments of tissue are left in the canal they are so acted upon that they cannot again form a starting point for infective processes. A familiar example of the action of chloride of zinc is seen in cases where the nerve of a tooth has become devitalized, and has remained as a tough aseptic mass after having been capped by a dressing of this material.

Another advantage of the oxychloride of zinc is that it fills the canal very closely, and no discoloration results from its use. When indicated it is applied by mixing it very thin and then working and pumping it into the canals with a broach. If the broach is covered with a wisp of cotton rolled in the liquid cement, it is carried into position readily. The cotton may or may not be left behind in the canal. Where the canal is large, a core of metal may be pushed into position, as I have already mentioned.

When cotton is left in contact with chloride of zinc, it is acted upon by it, and in the course of time is finally converted to amyloid, which is a colorless colloid, and is unchangeable under any conditions which might obtain at the apex of a root. This change rather enhances the value of adding cotton to this filling.

Oxychloride of zinc is rather irritating to vital tissues, and to decrease the danger of causing irritation at the apex of the root, and to prevent any from being forced through, the end of the canal may be blocked with a small plug of cotton wool, dipped in any suitable sedative medicament, such as one of the essential oils. Then the cement is worked into the canal above this, and later the cotton is converted into unchangeable amyloid. Should the cement ever require to be removed, this will have to be accomplished with sulphuric acid, just as if one were opening up a new and fine canal, rather difficult, but perfectly practicable.

Salol and paraffin are two materials which are melted and worked into the canals while in that melted condition. The crystals of salol, which is the salicylate of phenol, are best melted in a small test tube—if the heat be raised a little higher than is necessary for simple fusing the salol is found to remain liquid a little longer. Some is

taken between the beaks of the dressing forceps and run into the cavity. If broaches be already in the canals, and be now removed, the salol runs in to take their place by warming them and working them into the canals; this material thoroughly fills the lumen. Any escaping from the apical foramen seems to have no irritating effect from all accounts, and it has a mildly antiseptic action. There is conflicting evidence with regard to the permanence of salol as a canal dressing. Many affirm that upon re-opening any canal filled with it, the canal is found to be empty, but sweet. This is to a certain extent prevented by filling the bulk of the canal with a gutta percha or metal core.

Paraffin is used in the same way as salol. It is usually combined, however, with some antiseptic, such as carbolic, artistol, or iodoform, or may be mixed with the salol. This, again, is used in conjunction with a metal or guttapercha core, the advantage of which, with salol or paraffin, is that it may very readily be removed by the application of a little heat. Paraffin is very mild and unirritating to vital tissue, and yet it is unchangeable, so differing from salol, but yet it appears to be absorbed by the dentine, or dissipated in the course of time. One great advantage of both these materials is that when used for filling the canals of deciduous teeth and the roots of the teeth are being resorbed to make room for their permanent successors, the filling is also absorbed, offering no irritation or obstacle to the natural process.

In using iodoform in any manner in the teeth very great care should be taken not to give it any chance of leaking into the mouth. Personally, however, I have found that very many more patients are indifferent as regards the smell than I had expected, but where it is disliked, it appears to be disliked intensely. Mixed with glycerine into a stiff paste it may be used in filling the canals of deciduous teeth, offering no obstacle to their resorption.

One material I have not tried (which rather leads you to believe I have tried all the methods I am giving you except it, which is not the case so far), is a resinous substance composed probably according to a private formula, called Balsamo del Deserto. It is claimed for this that it is antiseptic, unchangeable as a canal dressing, suitable for deciduous teeth, and finally, that it clings to wet surfaces—

Rather similar to this is a substance advocated, or rather mentioned by Tomes, which is a mixture of shellac and wax drawn out to fine threads. These threads are packed into the canals, and then

melted by flowing in a little alcohol, or by working them into place with a hot wire. The wire may be left in to facilitate the removal of the dressing upon occasion.

Perhaps one of the most used, if not *the* most used (and abused) of root canal fillings at the present time is guttapercha. Considering its disadvantages it is perhaps to be wondered at that this occupies so advanced a position, for it is far from being ideal. As commonly used, a solution of guttapercha is made in chloroform, of a creamy consistency, and this is worked into the canal as thoroughly as possible, until the canals are filled with it. Cones of the solid G. P. are now introduced, and packed as tightly as is possible, displacing as much of the solution as can be done, so minimizing shrinkage. Guttapercha is easy to apply in this way, but if any chloropercha is driven beyond the apex it is very irritating, causing inflammation, and probable further trouble. Often, too, the apical foramen is comparatively large, and here the point of the guttapercha cone may protrude, and act as a very irritant foreign body. I have met only lately with a case of this description, in which I had to remove large gold fillings and guttapercha canal dressings from one of the six upper anterior teeth. Pus had formed in small quantities in two or three of them, and treatment was necessary. With a series of sedative dressings they all have become normal, but it involved some time. In another tooth in the same mouth, an upper bicuspid, I found, on extraction, that the guttapercha of the canal filling protruded from the foramen some distance, and yet there was room for a broach to be passed alongside it into the canal. Naturally this was not so much the disadvantage of the material as of the part filled and method of filling, but a less irritating substance would have probably prevented the occurrence of the trouble.

Another very great disadvantage of this dressing is the shrinkage that occurs when it is applied in the solution. The solution may be made from temporary stopping, or from the pink baseplate guttapercha. In the former case a less proportion of chloroform is needed to dissolve it, thus, as a result, there is less contraction when it evaporates, but the resulting guttapercha is not so tough as that deposited from a solution of the baseplate. Frequently the addition of iodoform to the chloropercha is an advantage, making it more tolerated by the tissues against which it may be brought. The removal of this material from the canals is occasionally difficult.

Where it cannot be removed by heat, burs, or drills, a good method is to seal a little chloroform in for a short time, after removing as much of the guttapercha as possible. This softens the remainder and permits of its being taken out more easily. Where, however, its removal is a matter of possible necessity in the future, instead of inserting the ordinary guttapercha points, strands of floss silk are taken, dipped in the chloropercha, dried, and then used for filling the bulk of the canal. Now, when the necessity of removal does appear, the protruding ends of these threads are easily taken hold of and the dressing removed. It is always well to ascertain as nearly as possible the size of the apical foramen. In cases where it is larger than normal the use of chloropercha is contraindicated, and the following line of action is taken. A guttapercha point is taken, and as much of the end cut off as would be likely to protrude through the foramen. The canal is wiped out with an essential oil, eucalyptol being one of the best, the cone is dipped in the same material and now well driven to place. It conforms to the canal because of the softening property of the oil, and when used without the chloropercha is not irritable. In other cases the G. P. may be used by packing to place in the canal with hot instruments, either the temporary stopping or the base plate being the form selected.

One of the last of the preparations used in a root-filling capacity has evolved from the observation taken of the action of strong antiseptics inserted over the nerve. In certain cases it was noticed that there was no disturbance of a deleterious kind for a long time after the application of such substances as arsenic, mercuric chloride, etc. This led to certain experiments being made about 10 years ago by Dr. Miller, who demonstrated that only the most powerful and penetrating of antiseptics were of any permanent value as mummifying agents. Of these probably the best was a mixture of equal parts of mercuric chloride and thymol, in the form of a tablet, which is placed in the pulp chamber and crushed there, being then covered with the filling. Owing to its discoloring properties, the mercuric chloride can only be used in posterior teeth.

Formalin is one mummifying agent which is yet only in an experimental stage; the irritating effect, however, when this is brought near vital tissues is frequently very severe.—*Commonwealth Dental Review*.



EDITORIAL

THE CLARK DENTAL BILL.

BY JOY L. FRINK, D. D. S.

The above-named bill became a law Wednesday, May 17th, when Governor Deneen attached his signature to the measure. That the decision arrived at after patiently listening to both sides of the controversy was a wise one there is no doubt. That dentistry in the State of Illinois will be better for this bill there is every reason to believe. The gentlemen who so persistently and earnestly labored for it, both in the house and in the executive mansion, are to be commended not so much because of what they accomplished, but for the reason that their methods were clean and honorable throughout and that they did not resort to misrepresentation and untruths. These facts stand out prominently when contrasted with the means employed by those who opposed the bill. Through misrepresentation they induced a number of dentists to work against the bill who, if they had been better informed, would have gladly welcomed the protection afforded by it.

There is nothing in the measure prohibiting the display of advertising matter in newspapers or elsewhere; if there were, the bill would be unconstitutional and would never have been signed by so eminent an attorney as Governor Deneen.

The part of this bill which provides that a dentist must practice under his own name and must "deliver the goods as advertised" will be a hardship to no honest man, whether he be an advertising or an ethical dentist.

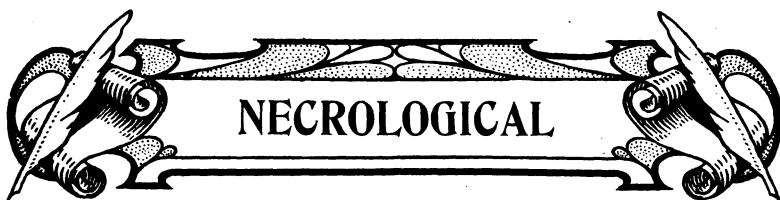
The stand taken by some of the country newspapers was a disgrace to journalism; a profession so potent for good or evil. These sheets were candid enough to admit that their object in opposing a bill endorsed by 90 per cent of the dentists of the state and having for its only object the protection of humanity, was the monetary consideration. Thus for the small sums received from this class of dentists they would subject humanity to butchery by incompetent dentists, a condition of affairs sure to follow the failure of the

protection afforded by proper legislation. That their apprehension was unfounded there is no doubt, as the only effect the present law will have will be a more careful wording of the advertising matter used and the newspapers will still receive revenue from this class.

Not all ethical dentists are perfect, nor are all advertisers rogues, but let us all hope that the new law will act as a curb to every dishonest member of the profession, no matter to which class he may belong. Dr. P., a dentist who had been practicing in a small town, consulted us regarding a city practice; as his means was limited we advised a situation as assistant to some city dentist as the first step. The Doctor procured a position with Dental Parlors, but after having worked one day he resigned the position and related to us the following story, which we had and still have no reason to doubt: A patient called; occupation, servant girl; teeth in healthy condition except accumulation of salivary calculus around necks of anterior and inferior teeth; patient was advised by "contract man" that she had so neglected her teeth as to make it impossible to save by filling and advised the cutting off of teeth and crowning, which was done. It is to be hoped that the new dental law will be a means of preventing murder of this kind, and God speed the day.

J. L. F.





NECROLOGICAL

DR. ISAAC NEWTON MERRITT.

Dr. Isaac Newton Merritt, for the last four years justice of the peace and a prominent Republican politician, and previously a leading dentist, died at Battle Creek, Mich., of a complication of diseases, aged 55.

DR. W. M. HAMMOND.

Dr. William M. Hammond, 89 years old, who had lived in Kansas City and vicinity for the last forty years and practiced dentistry twenty-five years ago, died at Rosedale, April 27. He leaves a wife and one daughter. The body was cremated.

DR. C. B. ACKERT.

Dr. C. B. Ackert, a young dentist of Marshalltown, Iowa, aged 24 years, who for the past year has had an office in the Kibbey block, died March 24 at St. Thomas' hospital of typhoid fever. He had been sick for about six weeks, and for a month had been at the hospital. Dr. Ackert had been practicing in that city for about a year. He moved from Galva, which is his home, and where he had been following his profession since he graduated from the Northwestern Dental College, Chicago, two years ago.

DR. EDGAR A. BARTLETT.

Dr. Edgar A. Bartlett, a well-known dentist, died at Binghamton, N. Y., May 8. He had been ill with diphtheria for three days.

Dr. Bartlett was well known and popular and his sudden death came as a great shock to his many friends. He had been a resident of that city for five years. Dr. Bartlett was a graduate of Buffalo Dental College.

Dr. Bartlett was but thirty years of age. He was a member of the Press Social Club.

DR. FRANCIS A. CUMMINGS.

Dr. Francis A. Cummings, a well-known dentist of Jersey City, N. J., and who was one of the pioneers of modern dental surgery, died as a result of injuries received in a trolley accident a year ago and was buried at Newton, April 22.

Dr. Cummings was over sixty years old and was a nephew of ex-Governor R. M. Price, of Bergen county, who was the first Governor of California and the Chief Executive of New Jersey in 1854.

DR. JOSEPH A. BOWMAN.

Dr. Joseph A. Bowman, formerly a prominent dentist in Minneapolis, died May 7, at Bethel, Vt., where he moved last fall with his family.

Dr. Bowman was born in Barnard, Vt., and commenced the study of his profession in 1855. He enlisted during the civil war, and at its close went to Minneapolis, where he commenced the practice of dentistry. In 1870 he entered into partnership with Dr. E. M. Griswold. This partnership continued until 1882. In 1884 he entered into partnership with Dr. E. T. Weeks and Dr. M. G. Jennison. Later this partnership was dissolved and Dr. Bowman was in partnership with Dr. A. E. Peck.

He retired last autumn and moved back to his native state. He is survived by a widow and two brothers.

DR. CHARLES M. HITCHCOCK.

Dr. Charles M. Hitchcock, for thirty years practicing dentistry in Utica, N. Y., died April 8. He was a native of Greene, Chenango county, having been born in that place May 12, 1850. His education was acquired in the district schools in his native town. When quite young he chose the dental profession and served his apprenticeship with Dr. Freeman, who had an office in that village. After learning dentistry with Dr. Freeman he removed to Oneonta, where he opened an office which he conducted for a few years. He subsequently removed to Corning, where he became associated with Dr. Rankin and they conducted a place in that city for some time under the firm name of Hitchcock & Rankin. Dr. Hitchcock subsequently withdrew from the firm and located in Utica, and he had since been engaged at his profession in that city.

DR. J. C. PARKER.

Dr. Joel C. Parker, the oldest resident dentist of Grand Rapids, Mich., and the second to take up practice in that city, died April 19.

Dr. Parker was well known, both as a professional man and a public-spirited citizen. In his profession he was looked upon as a leader, and aside from his practice, found time to invent devices now in use in many offices. He was a member of the Michigan State Dental Society, and at one time its president.

Dr. Parker was born in Gainesville, Wyoming county, N. Y., July 18, 1829. His early years were spent as assistant to his father in the tanning business. After he had attained his manhood he taught school in Pennsylvania. In 1852 he completed his study of dentistry at Castile, N. Y., and a year later located at Grand Rapids, where he resided continuously up to the time of his death.

MISCELLANEOUS

TO HASTEN SETTING OF PLASTER.

Powdered Alum added to the plaster water will harden plaster much more quickly than salt.—*Dr. X. Dodel, Pointers.*

FLAWS IN BRIDGE SOLDERING.

When a flaw occurs dust a particle of flux, clean out the depression with an inverted cone bur, and fill with crystal gold.—*A. W. Thornton, Dental Review.*

CARBORUNDUM STONES IN VULCANITE WORK.

Vulcanite plates may be smoothed and trimmed in a most satisfactory manner by using a Carborundum Stone in your engine for this purpose.—*Hints.*

ROOT CANALS.

Bi-chloride of mercury and sulphuric ether, equal parts, is a good wash for root canals. It dries out better than alcohol. Be careful with it, it is poisonous.—*Dr. J. F. Steele, Eagle Grove, Iowa; Hints.*

A GOOD HABIT.

Medical men have a good habit that dentists ought to imitate, and that is to relate cases in practice; there is nothing so interesting or likely to inspire others to make their works known.—*Register.*

SALIVA EJECTOR.

When your saliva ejector tubing gets stopped up, just cast it aside and attach a new one of a little larger calibre. It is a waste of time and patience to try to clean it out. Ordinary rubber tubing without covering will do.

CEMENTING INLAYS.

Moisten both the cavity and filling with the liquid of your cement just before setting in the usual way (wipe off excess) and notice how much more adhesion you get.—*Dr. W. H. Dunham; Summary.*

EFFECT OF A TASTE OF RADIUM.

One of our correspondents recently passed through a peculiar experience. He tasted of a small fraction of a grain of radium. It acted as a powerful stimulant, affecting both the heart and kidneys. It was several hours before his pulse became normal. It affected the mind also, producing hallucinations.—*Scientific American.*

AN IDEAL HAEMOSTATIC AFTER EXTRACTION.

Ten drops of tincture of chloride of iron taken internally in any menstruum through a straw or a quill will stop any hemorrhage after extraction. Should it re-occur, repeat the same dose one hour later. A third dose will hardly ever be necessary. Try it.—*Dr. X. Dodel; Pointers.*

SOLDERS.

Twenty-two carat gold solder: 22 parts pure gold, 1 part pure copper, $1\frac{1}{4}$ parts pure zinc. Eighteen carat gold solder: 18 parts pure gold, 3 parts pure silver, 2 parts pure copper, $1\frac{1}{2}$ parts pure zinc. Silver solder: 19 parts pure silver, 1 part pure copper, 4 parts pure zinc.—*Dr. W. H. Trueman; Off. and Lab.*

SOUTH AFRICA'S FIRST LADY DENTIST.

Miss Jane Nathan, who is the first South African born girl licensed to practice as a dental surgeon, has returned from her successful studies in Europe to begin her profession at Hanover, Cape Colony. She is also believed to be the first South African girl to take any medical degree.—*The Dental Surgeon.*

POLARISCOPIC STUDY.

The polariscopic study probably will be important in the future. A feature shown prominently by the polariscope is that cements require a good deal of time, at least ten days, to become fixed. Crystallization is slow, and when the cement is hard and has apparently set completely it is far from being so. Day after day the changes going on there are very apparent.—*Dr. G. C. Poundstone, Digest.*

THE ARTICULATOR.

All cases in bridge work involving posterior teeth should be mounted and constructed upon an articulator which affords lateral movement, as many failures in bridge-work can be attributed directly to faulty occlusion, and success of all such cases depends largely upon the degree of accuracy in this particular.—*Dr. H. J. Goslee; Items of Interest.*

INLAY MARGINS.

Inlay margins should have as nearly a right-angle section as is possible to obtain with walls that are divergent, for strength, for structural perfection, and for color effect. Furthermore, it simplifies the manipulation in the construction of the inlay, and reduces the danger of fracturing the margins in forcing the inlay to place in setting it.—*Dr. J. E. Nyman; Dental Summary.*

MATERIAL FOR SEPARATION.

I use for separation, cotton; take a piece of dental floss, place between the teeth to be operated on, and in the interdental space labially and lingually a small pledget of cotton, bring lingual end of ligature over cotton between teeth and tie labially; discharge patient until next day, when you will find the teeth nicely separated.—*Dr. C. A. Lee; Texas Jour.*

NON-EXPANDING PLASTER.

1. Plaster mixed with lime-water which has been prepared with boiled water *does not* expand. 2. Such a mix expands if a little salt or unboiled water is added. 3. Such a mix also expands if the lime-water has been prepared with filtered instead of boiled water, as most druggists prepare it, or if only boiled water is used.—*Dr. P. B. McCullough; International.*

AN ABSCESS PROBE.

When an abscess appears between two dead teeth it is often difficult to tell which one is decayed. A minute probe made by attaching a small globule of soft solder to the point of a smooth broach will provide an instrument that will follow the path of the pus, thus pointing to the tooth at fault and at the same time causing no pain to the patient.—*Dr. X. Dodel; Pointers.*

REMOVAL OF VULCANITE FROM PORCELAIN TEETH.

Cover the bottom of an iron ladle, such as used for melting lead or zinc, with a layer of dry plaster of Paris; lay the teeth to be cleaned on the surface and sprinkle dry plaster over, completely covering them; place over a big Bunsen flame in draught chamber or in coke furnace, and heat to redness. Then cool down gradually, when on removal the teeth should be found perfectly clean.—*Dr. W. T. Finlayson, Dental Record.*

PROPER CEMENTING.

I wish to emphasize the fact that it is immaterial what brand of oxyphosphate of zinc is employed as a cement, so long as the user is satisfied it is a pure oxid of zinc, free from carbonic acid and moisture, and a recently-prepared concentrated solution of glacial phosphoric acid having a specific gravity of approximately 1.650. Have a clean, cold glass slab, a horn or platinum spatula, and incorporate powder and liquid thoroughly into a perfect mix, and usually good results are obtained.—*Dr. G. C. Poundstone; Digest.*

NEURALGIA.

Revue Medico-pharmaceutique recommends the following formula as valuable in neuralgia:

℞ Quin. valerianatis, gr. jss.
 Extr. hyoscyami, gr. 3-10.
 Extr. cinchonæ, gr. $\frac{3}{4}$. M.
 Fiat pil. no. j.

Sig.—Take two to four such pills daily.—*Monthly Cyclopedia of Pract. Medicine.*

A LOW-FUSING ALLOY.

An alloy composed of five parts of bismuth, one and one-half parts of cadmium and two parts of tin, fuses at so low a temperature that it may be poured into a plaster impression as soon as the impression is removed from the mouth. It produces an accurate die which can be used in the hydro-swage, or with shot or cornmeal as a counter die.—*Dr. W. A. Buscho; Dental Review.*

ORTHODONTIA: SPREADING THE MAXILLÆ.

In very young patients, before the cuspids and bicuspidis have come in—at seven or eight years of age—by spreading the maxillæ the unerupted cuspids and bicuspidis are moved while still embedded in the bones, and will come in in perfect alignment, straighter and more firmly fixed in their sockets than if forced into occlusion after eruption.—*Dr. R. Ottolengui; Items of Interest.*

ADAPTATION OF MATRIX TO CAVITY

Press the matrix material to general form of cavity; then stretch loosely over it a strip of thin rubber dam and lay on it, over the cavity, a small quantity of ordinary putty, rather stiff. Press into the cavity, carrying it to the bottom, and with considerable force carry it into every part. Release the pressure and the elasticity of the rubber will lift the putty from the cavity and leave the matrix in position.—*Dr. W. H. Halloway; Items of Interest.*

PAINFUL ERUPTION OF THIRD MOLARS.

In the treatment of gingival and buccal inflammation, due to the pathological eruption of the third molar, the careful application of Nordhausen sulphuric acid decreases the pain and reduces the inflammation, and is easier to carry out than the customary deep lancing of the overlying gum flap. Observe strictly the precautions usual with caustic agents within the mouth; its action should be limited to a definite area.—*Pierre Robin, La Revue de Stomatologie.*

TO STIFFEN A PLATINUM PIN.

Platinum and platino-iridium at times are too weak for posts, whether plain or threaded. To strengthen and stiffen either, flow over the entire surface a thin layer of eighteen or twenty carat plate or solder.—*Off. and Lab.*

SIMPLE REMEDY FOR ILL-FITTING VULCANITE DENTURES.

It quite often happens that a vulcanite denture is found to be loose and unsatisfactory, even though made from a very good impression. Very often the cause of the denture not fitting is overheating when finishing with pumice and felt wheels, cones, etc. The gum portion, if thin, quite often changing shape from this cause.—*Odontoblast.*

REPAIRING PUNCTURES IN RUBBER DAM AFTER ADJUSTMENT.

Take a piece of surgeon's adhesive plaster of the proper size, slightly warm it and cover the puncture. It will effectually seal the opening. I got this idea from Dr. Pherrin, of Central City, Iowa, and I believe it is original with him.—*J. V. Conzett, Dubuque, Iowa, in Review.*

NITROUS OXIDE VS. SOMNOFORM.

When detected in the act of shop-lifting a Toronto woman claimed that she was not responsible for her acts on that particular day, as she had taken "laughing gas" for a dental operation. This is but another illustration of the advantage of somnoform over gas.—*Odontoblast.*

DIZZY MILLIONS.

Angry because she eloped with a poor dentist, Charles Lockhart, who left \$150,000,000, disinherited his daughter, Mrs. W. S. Flower, cutting her off with the income of a paltry \$300,000. Four other children were left the millions. They have decided to assist their less fortunate sister, and each brother and sister will hand over to Mrs. Flower \$7,500,000, making her fortune \$30,000,000, the same as their own. It is said that this happy state of affairs was brought about through the ability of the "poor dentist" to perform painless operations when treating the teeth of his sister-in-law. And still men will persist in the claim that it is impossible for dentists to make money.—*Odontoblast.*

EXPANDING OF CEMENT.

It is my experience that a cement which sets under pressure will expand greatly when the pressure is removed. That is characteristic of cement, and it has come out prominently in these tests. It gives the explanation of the fact that the cement forces out the inlay, and is the reason why we have such bad borders occasionally. Although the inlay when first put in seems to fit very nicely, afterward the irregularity can be felt with the finger or instrument, and sometimes it is visible.—*Dr. G. C. Poundstone, Digest.*

A PROTEST BY AMERICAN DENTISTS IN BERLIN.

We, the undersigned American dentists in Berlin, respectfully present the following urgent protest against a notice in the last number of the *German Times* (January 16th), in which statements were made which are well calculated to injure the name of a member of the American colony who is most highly esteemed, not only as a skilful practitioner of dentistry but as a man of unwavering integrity of character. Having examined into the business relations of this gentleman with the deceased Dr. Sylvester, we are absolutely convinced that he not only most conscientiously and scrupulously lived up to the terms of the contract which existed between him and the deceased, but still more, that he evinced a charity in his dealings far beyond that which could have been legally exacted and which has evoked our undivided admiration.

We herewith express our unreserved confidence in the gentleman in question and our strong disapproval of all attempts to make him in any way responsible for a deplorable event over which he had no control.

W. D. MILLER,
CHARLES H. ABBOT,
FERD. FOERSTER,
E. D. BARROWS,
GEO. O. WEBSTER,
GEORGE MARTIN,
J. H. RAMSEY,
E. LAWLEY-YORK,
GEORGE A. KENNEDY,
LEE A. WATKINS.

Berlin, January 19, 1905.

OVERBAKING PORCELAIN.

On the question of overbaking. It seems to me that that is another advantage in the Jenkins material, that you have the actual baking of the body very much more under control than seems to be the case with the high fusing materials which are used in the electric furnaces, unless possibly the new furnace of Dr. Price has settled that problem; from those who are using the old furnaces and the old methods we constantly hear of overbaking. With the Jenkins body, as the successive stages of the body are baked, a slight underbaking can be done and the final baking brings the whole mass up to a full fusion and a high gloss. I assure you that by that means you can, on every occasion, reproduce the color of your sample. As an evidence of that, I want to tell you something that was shown by Dr. Price in Cleveland at a clinic. Dr. Price, when he produced his new furnace, made some little compressed pyramids of the various bodies which he numbered and labeled, so that when they were returned to him he could know exactly what body had been sent out. We will say, for instance, he was sending out some Brewster body; he sent it to a man who uses the Brewster material, and when he sent out the Jenkins body he sent that to a man who used the Jenkins material, and he asked that these little masses should be baked thoroughly according to their methods and returned to him. He took these little returned pellets, say, for instance, the twenty specimens of Mr. Brewster's body, baked by twenty different men, and he put them all in a line on a card; he did the same with the Jenkins material, and he did the same with eight or ten different porcelains on the market, and of all, excepting the Jenkins material, he received about twenty different shades, all of which had come from the same body. With Jenkins specimens, which came from twenty men who were using the Jenkins body, there was scarcely more than half a shade difference between the lightest and the darkest of the samples. It does not seem to me that that means the men who were using Jenkins body were more skillful, but that they had an advantage over the men who were using the other bodies, in that they could better watch the fusing and determine exactly when the bodies were properly baked. It is for this reason, and because I have used this body only, that I feel I know very little about the shadow problem, which does not occur in my practice.—*Dr. Ottolengui, Items.*

Personal and General

Committed Suicide.—S. Elwood Schirmer, formerly of Warren, Ohio, committed suicide in Los Angeles, Cal., March 3. He took the revolver route.

Remsburg-Ott—Dr. E. W. Remsburg, a young dentist, and Miss Nora K. Ott, were married April 18th in the Zion Lutheran church, at Newville, Pa.

Will Lecture in Europe—Dr. John N. Sandblom, president of the Scandinavian-American Dental Society, at Chicago, left for Europe May 16, where he will lecture in three Scandinavian cities on advanced dentistry.

Pneumonia's Quick Work.—John Forsch, thirty, a dentist, was taken with pneumonia at Loudonville, Ohio. Officials there hurried him on to a train and sent him to Wooster. Forsch died as he was being taken into the hospital.

Dr. Haese Will Try Rest Cure.—Upon the advice of physicians, Dr. Haese will close his dental offices at Peshtigo, Wis., and will relinquish his practice until he regains his health. He is badly shattered in health and is unable to attend to the wants of his patients.

The Army.—Dr. Ralph Wadell, contract dental surgeon, and his assistant, Private C. D. Watkins, have been ordered to go to Fort Crook, Nebraska, for temporary duty. After completing their duty at that place they will return to Leavenworth, Kan.

Appointed.—Dr. George S. Todd has been appointed a member of the state board of dental examiners of Minnesota by Gov. Johnson, to succeed Dr. Cyrus H. Robinson, whose term has expired. Dr. Todd will serve until 1908.

INJURED.

While Dr. Pierce, the dentist, was riding on his bicycle at Bloomington, Ill., the tire on the wheel came off, throwing the rider with great violence to the pavement. His shoulder was dislocated and a knee sprained by the mishap.

Dentist Fatally Injured.—Dr. A. C. McFall, aged about seventy years, fell from a second story of a building in Mayfield, Ky., to the sidewalk and was fatally injured. He struck on the side of his face and head, fracturing his skull. The distance was about twenty feet. He is one of Mayfield's oldest dentists.

Dentist Suicides.—Dr. F. Gilmour, surgeon dentist, of New Hamburg, Ont., jumped from Dufferin Terrace, at Quebec, 150 feet to the rocks below, and was dashed to instant death. Almost every bone in the suicide's body was broken. He had chosen the highest point, at the west end, and the bottom was covered with rocks. There were no eye-witnesses.

DIES IN HIS CHAIR.

Dr. Ernst Seeger, a dentist at Manitowoc, committed suicide April 15 by firing a bullet into his brain. The dead body was found in the dental chair in his office by an attendant on her return from dinner. Dr. Seeger was 58 years old and had resided there for many years. He is survived by a wife and three children.

Heir to Fortune—By the death in France of a wealthy uncle, whom they had never seen, Dr. Alfred Perrier and his brother, Numa Perrier, of Buffalo, N. Y., have fallen heirs to \$250,000. Dr. Perrier is a struggling dentist, a graduate of Harvard and Jefferson Colleges, and his brother is studying dentistry in his office, preparatory to taking a course in a medical school. The uncle, whose name was Emile Perrier, was a widower without children.

HUNTER KILLS DENTIST FRIEND.

Dr. E. C. Moore, a dentist, and Gordon Brooks, a watch factory employe, went to hunt gophers near Elgin. Mrs. Brooks accompanied them and sat in the road in a carriage while the men went afield. She heard a shot and a cry from Dr. Moore and she hastened to see the dentist's prize. She found her husband dead, the accidental victim of Moore's rifle.

Tries to Kill—As the result of an old dispute over a mining claim in which he was worsted, and crazed with liquor until his grievance was magnified, Dr. James Sullivan, a dentist, attempted to kill Lincoln A. Reynolds, a prominent mining man, at Leadville, Col., by firing point blank at him. The bullet entered Reynolds' chest, striking the breast bone and glancing into the muscles of the right breast, where it lodged. Shot though he was, Reynolds made a desperate effort to get at his opponent and only the intervention of friends prevented further trouble.

Sculptor Swallows Teeth—Charles H. Niehaus, the well-known sculptor, is slowly recovering at the Polyclinic Hospital, New York City, from the effects of a singular accident. That he is alive and on the high road to recovery is due to a rare operation.

Six weeks ago Mr. Niehaus, in a fit of laughter, swallowed two artificial teeth and the wide rubber plate to which they were attached. Mr. Niehaus reached New York nearer dead than alive, and was taken to the Polyclinic Hospital. That afternoon Dr. John A. Wyeth performed an operation, successfully removing the teeth that were embedded in the esophagus, far down behind the breast bone.

RUBBER EARS.

Dr. Hartan, a dentist at Toledo, O., has successfully performed the only operation of its kind on record. He finished a pair of rubber ears for a girl who lost her real ears in a laundry accident. They are so tinted that they can not be distinguished from genuine ears, and are held in place by a steel band and silver tubes extending into the inner ear.

The accident occurred nearly five years ago. In it the girl lost her entire scalp, ears and a great deal of skin from her face, which has been replaced by grafting.

ARRESTED FOR ALLEGED ILLEGAL PRACTICE.

A. Leir Addison was arraigned in police court at Dayton, O., charged with illegally practicing dentistry. H. C. Brown, a dentist of this city and a member of the state board of examiners of applicants for dental diplomas, was the complainant. Addison pleaded not guilty and his case was set for May 18.

Thomas H. Robinson, who was arrested on a similar charge, was also notified to appear for trial on May 16. It is alleged that neither has a state license.

Dental Work in Schools—At a conference between the members of the school board and representatives of the Rochester Dental Society, held recently, the school board approved the plan of the dentists to make examinations of the teeth of public school children. The Dental Society was authorized to perfect its scheme and go ahead with the work at once and it is expected the new system will be inaugurated within two weeks.

The suggestion that the teeth of public school children be examined by dentists, free of charge to the parents of the children, is said to have originated with the Rochester Public Health Association, and this organization is to stand the expense of the work until the plan is tried out. Several members of the Rochester Dental Society have been selected as a committee to get the work under way, and these are already laying out a systematic plan for reaching all the school children who want to have their teeth examined.

Sergeant Edward M. Johnston, hospital corps, Fort Keogh, Montana, has been ordered to Fort Snelling.

TAKES TEETH FROM CORPSE.

Dr. Charles Franklin Stewart, a Chicago dentist, has filed a contest in the courts against Andrew A. Caswell, a palmist, who lives in Long Beach, Cal., in which he seeks to have set aside the will of his mother, Mrs. Susan Stewart, who died there recently, aged 75 years. In his complaint Dr. Stewart makes several sensational charges. The estate consists of \$15,000 in cash and several pieces of property of good value.

It is alleged that Caswell exercised such an influence over the deceased that he forced her to will to him all her property and leave her son without a cent. This influence, it is alleged, was due to Caswell's having through his palmistry made her believe that he was the only person in the world who cared for her.

Dr. Stewart declares that Caswell called at an undertaking establishment where the body of Mrs. Stewart was lying and told the undertaker that he wanted everything as cheap as possible. Then he demanded a set of false teeth which the dead woman had in her mouth. He said he wanted to melt down the gold. It is said that Caswell took an instrument and pried open the rigid jaws and removed the teeth.

Little Bobbie's Essay on Dentists—dentists is men that put you in a chare and make you squeel if you aint pretty gaim. i am gaim bekaus i never squeeled once when the dentist was poking a iron in my jaw but i wanted to

squeel tho. when you go to a dentist he will say Well, what can i do for you and you say My tooth is aking and he will say That is too bad, git in this chare and we will see what we can do, then he taiks a iron that is awful sharp and he puts it on the edge of the hole in yure tooth and it slips off sumtimes and goes away into yure jaw and he says Oh i beg yure pardon, my nerves are bad this morning. then he looks around in yure mouth & says Dear me, thare is quite a lot of work needs to be done on yure teeth, see here is a cavity, and here is another; and here is five moar, then he says i will go ahead & fix yure teeth up and maik it reasonable, & he does it and then when he sends you the bill you faint neerly.

dentists maik false teeth too, my Ma has false teeth & they are always nise and white, Pa says thay ought to be when they cost him a month's sallery neerly.

but i think dentists are much moar on the square than doctors.

JURY DISAGREES IN SECOND TRIAL OF KOCH CASE.

The jury in the trial of Dr. G. R. Koch, charged with the murder of Dr. L. A. Gebhardt at New Ulm the night of Nov. 1, 1904, announced to Judge Cray to-day that it was unable to agree on a verdict. Judge Cray sent the jury back for further consideration of the case, and announced that if no agreement was reached by 11 o'clock he would discharge the jury.

The jury was called into court at 11 o'clock, and upon the announcement that no verdict had been agreed upon Judge Cray discharged the jurymen from further consideration of the case.

This is the second disagreement in the case against Dr. Koch.

When the jury came into court the first time to-day W. H. Wilcox, foreman of the jury, stated to the court that the jury was divided on the facts in the case. He added that the jury stood 7 to 5 and was about to continue voting when the court interrupted him by ordering him to make no further statement as to how the jury stood. The impression prevails that seven were for acquittal and five for conviction.

Rejected from Navy for Lack of Teeth—Andrew Goumhan, who served on the battleship Brooklyn during the Spanish-American war, and who played an important part in destroying Cervera's fleet, would like to know if he is an able-bodied man. The officials of the National Soldiers' home at Dayton say he is, but the recruiting officers at this station say that he is not, and refuse to enlist him in the navy because he has not enough teeth.

Goumhan was wounded in the battle of Santiago bay the same time that Yeoman James' was killed. The Spanish tore away the mainmast of the Brooklyn and splinters struck him in the jaw, making a frightful gash, and knocking out the teeth that the recruiting officers say should be there before he can again see service.

Goumhan is one of the men that have not received their prize money or medal awarded for bravery during the battle, and is desirous of securing a permanent location in order to make his claims. When he was discharged from the Dayton home he felt that he could surely go back into the navy,

but was more than surprised today when told that Uncle Sam did not want him. He has made application to go to the Sandusky Soldiers' home, and in the meantime will try to secure work and get some false teeth, as the recruiting officers told him they would do in lieu of the real molars.

A Modern Ananias—There was some unique dental work done in Le Sueur to-day. T. P. Burleigh, one of our wealthy citizens, and G. W. True each had a full set of fine, white teeth all pulled, and True's teeth were reset in Burleigh's jaw. Three years ago Burleigh suffered from a severe fit of sickness and, on his recovery, his teeth were found to be so badly affected that they had to be taken out, and, inasmuch as he cannot bear the idea of using false teeth and is rich enough so that he can afford to be peculiar, he bought a full set of teeth from a negro and had them pulled from the black man's jaws and inserted in his own. This cost him \$500.

But during the last six months he found that his color was slowly but surely turning dark and that his hair was beginning to curl quite kinky, and his physicians warned him that he must get rid of the Afro-American teeth if he wished to preserve his Caucasian appearance. So he again started in search of a man with a good set of teeth for sale, and finally found True, whose jaws are of the same shape as Burleigh's, and who would sell his teeth if he could get enough for them. But he was no cheap man, as the would-be purchaser found, and, after a good deal of dickering, the price was finally set at a forty-acre farm, well stocked, and the finest set of artificial teeth that could be got anywhere.

Burleigh had to be placed under the influence of anaesthetics, when his teeth were drawn the second time, but True refused to take anything and never made a murmur while his glistening molars were being drawn.

He says that he cleared up one timber farm and then lost it in options, and that having a full set of teeth drawn for a farm is a good deal easier than digging forty acres of tree stumps to get one.—St. Paul Pioneer Press.



PATENTS

781,587. Rubber Disk for Dental Use. Joseph E. Blake, Amesbury, Mass. Filed Oct. 3, 1904. Serial No. 226,972. See Fig. 7.

Claim.—A polishing and cleaning disk for dental use composed of a body of rubber integral throughout, the central part of which is vulcanized hard and the peripheral part of which is given a soft vulcanization; there being no clear line of demarcation between such hard and soft parts, but the same merging gradually one into the other through varying degrees of hardness and softness.

783,959. Dental Separating-Disk. Roscoe H. Hull, Worcester, Mass., assignor of one-half to Arthur B. Chapin, Worcester, Mass. Filed Feb. 13, 1904. Serial No. 193,425. See Fig. 8.

Claim.—1. A homogeneous vulcanized dental separating-disk, composed of concreted granular abrasive material throughout its mass and having a side surface rendered smooth and non-abrasive by a surface-filling of moderately-wearable non-abrasive substance, integrated therewith, substantially as set forth.

785,529. Dental Jaw-Brace. Charles A. Thomson, Belleville, N. J. Filed June 16, 1903. Serial No. 161,657. See Fig. 9.

Claim.—1. A dental jaw-brace comprising toggle-joint members hinged together and being free to collapse in one direction, one of said members being extended at its inner end past the point of hinging and adapted to engage the other member to prevent bending in that direction.

2. A dental jaw-brace comprising toggle-joint members hinged together and being free to collapse in one direction, one of said members being extended at its inner end past the point of hinging and adapted to engage the other member to prevent bending in that direction, and flexible draft means secured to the extension.

781,313. Dental-Disk Package. Jacob A. Thomas, Hanover, Pa. Filed April 27, 1904. Serial No. 205,200. See Fig. 10.

Claim.—1. A device of the class described, comprising a receptacle provided with a disk-support, and a disk-receiving rod or stem hinged at the support and adapted to be arranged in a substantially horizontal position within the receptacle and arranged to be swung upward to an upright position to permit a series of disks to rest upon the support, substantially as described.

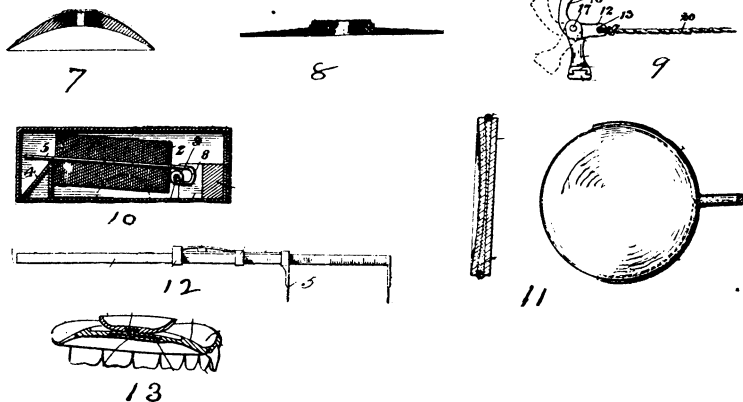
2. A device of the class described, comprising a receptacle provided with a support having a kerf or groove, and a disk-receiving rod or stem hinged at the kerf or groove and extending into the same, whereby the disks are adapted to rest upon the support when the rod or stem is arranged in an upright position, substantially as described.

3. A device of the class described, comprising a receptacle, a support having a groove or kerf, and a disk-receiving rod or stem having its lower end bent downward and hinged at the groove or kerf and arranged to engage the side walls thereof, said disk-receiving rod or stem being extended into the kerf to permit the disks to rest upon the support when the rod or stem is in an upright position, substantially as described.

4. A device of the class described, comprising a receptacle provided at the front with a support forming the front wall and terminating short of the upper edges of the sides, and a disk-receiving rod or stem hinged at the back of the receptacle and having its front end resting upon the said support, substantially as described.

778,981. Dental Mouth-Mirror. Alfred Littauer, Asbury Park, N. J. Filed Nov. 19, 1903. Serial No. 181,779. See Fig. 11.

Claim.—1. As a new article of manufacture, a double mirror comprising single mirrors of substantially the same size and contour placed back to back and united by an intermediate layer of cement disposed between them, the peripheral edge of said double mirror being formed to receive a holding-frame.



2. As a new article of manufacture, a double mirror comprising single mirrors placed back to back and united by an intermediate layer of cement disposed between them, in combination with a peripheral groove around said layer of cement and a holding-frame adapted to seat in said groove.

781,589. Dental Plate. Cyrus L. Buckwalter and William G. Wirt, Loudonville, Ohio. Filed May 17, 1904. Serial No. 208,360. See Fig. 12.

Claim.—A dental plate of the usual form, the body portion of which is provided in the top thereof with a recess, and a flexible and elastic cup-shaped suction device secured centrally in said recess and the edges of which are directed upwardly, the connection of the suction device with the plate

being made by means of a pin or rivet having end pieces, one of which is countersunk in the central top portion of the top late and the other in the central bottom portion of the suction device, substantially as shown and described.

783,804. Dental Measuring Instrument. Lawrence A. Smith, Port Gibson, Miss. Filed Nov. 26, 1904. Serial No. 234,417. See Fig. 13.

Claim.—1. A dental measuring instrument consisting of a stationary member, and a sliding member having a series of loops fitting on the stationary member, a back secured to one of the loops and having its end playing in another loop, and a spring secured to the said last-mentioned loop and carried by the back.

2. A dental measuring instrument consisting of a stationary member and a sliding member mounted thereon, the said sliding member comprising a series of loops encircling the stationary member, a back connecting some of the loops and having its end playing freely in one of the loops, a fulcrum-block on said back, and a spring secured beyond said fulcrum-block, passing over the same and having its end secured to the loop in which the free end of the back plays.

WANTED

Sanitol chemical stock. Address R. O'Sullivan, 43 Exchange Place, New York, N. Y.

WANTED

Practice and furniture in good Illinois town of 40,000. Cash income last year over \$3,000. Address S. D., American Dental Journal.

WANTED

Will "Bargain" give address to A-1, care American Dental Journal.

FOR SALE

An up-to-date dental office at invoice in county seat town of 5,000 near largest summer resort in northern Indiana. Rent, \$10.00 for office and living rooms. \$450 cash or \$500 long time. Address B-3, Am. Dental Journal.

FOR SALE

\$3,000 practice in Michigan town of 6,500 inhabitants; outfit at \$600; practice and good will, \$200; reason, wife's health. Address S. R., care American Dental Journal.

